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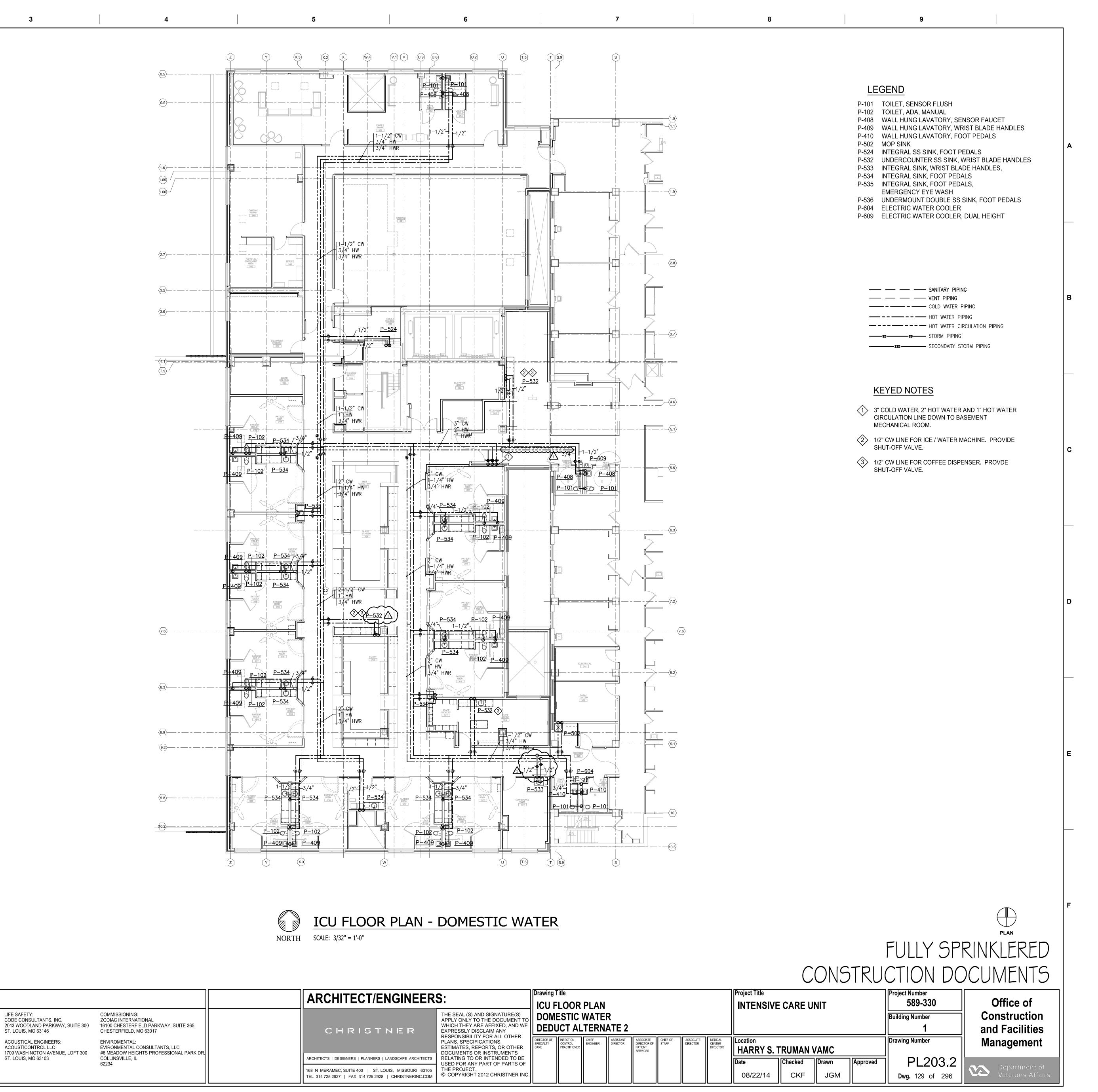
1 | 01/14/2015 | Amendment #4

Revisions

PRINTED ON: January 14, 2015

No. Date

VA FORM 08-6231



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**CONSULTANTS:** 

KPFF CONSULTING ENGINEERS - ST. LOUIS

KJWW ENGINEERING CONSULTANTS - ST. LOUIS

PLUMBING/FIRE PROTECTION:

1935 ARSENAL STREET

ST. LOUIS, MO 63118

KWAME BUILDING GROUP

ST. LOUIS, MO 63103

ESTIMATING:

303RD ENGINEERING GROUP, LLC

1204 WASHINGTON AVE. SUITE 200

STRUCTURAL ENGINEER:

ST. LOUIS, MO 63131

ST. LOUIS, MO 63141

ORIGINAL SIZE OF SHEET IS 30" X 42"

1 | 01/14/2015 | Amendment #4

Revisions

PRINTED ON: January 14, 2015

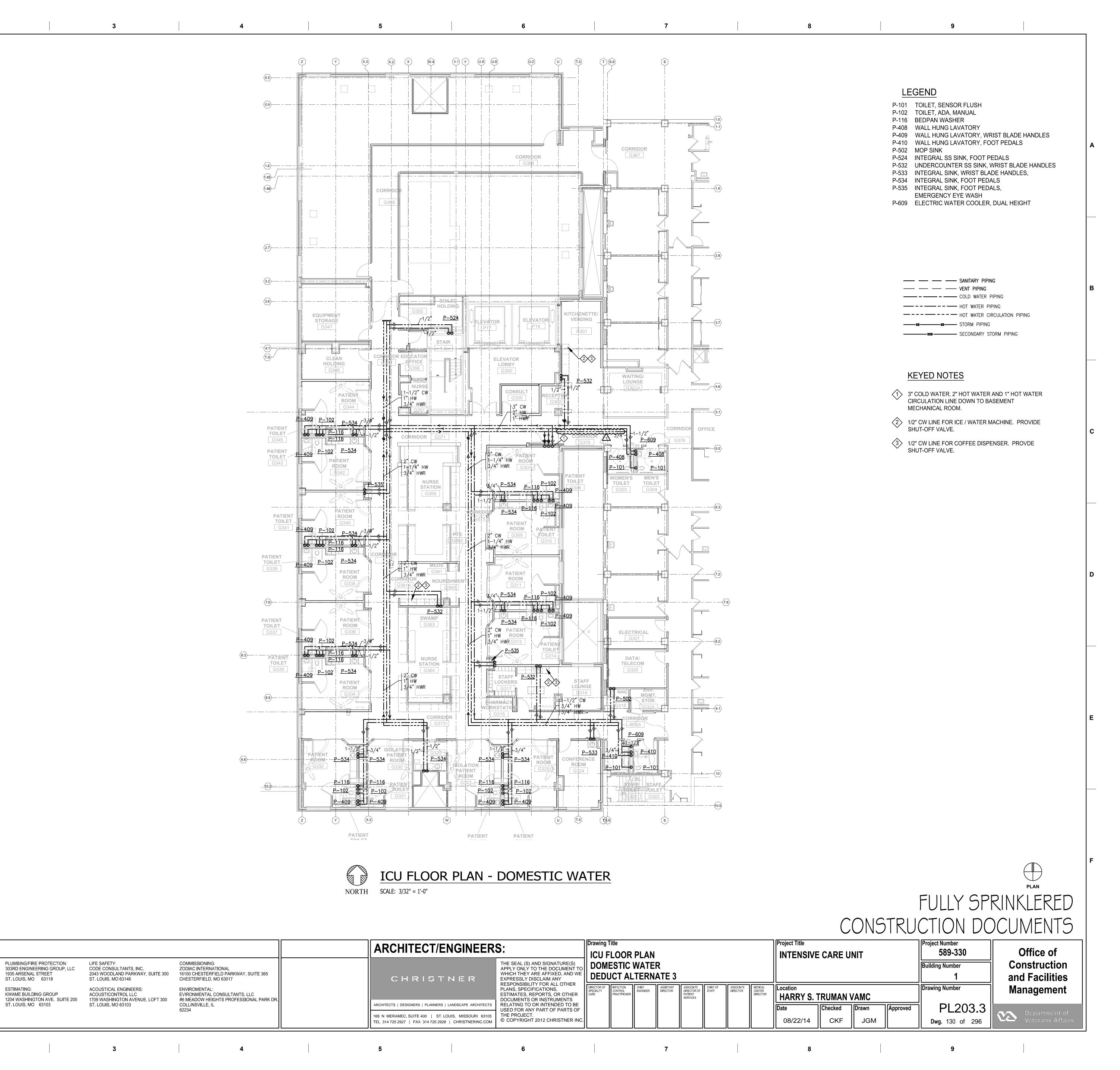
No. Date

VA FORM 08-6231

MECHANICAL/ELECTRICAL:

1630 DES PERES RD, SUITE 100

#15 SUNNEN DRIVE, SUITE 104



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**CONSULTANTS:** 

KPFF CONSULTING ENGINEERS - ST. LOUIS

KJWW ENGINEERING CONSULTANTS - ST. LOUIS

1935 ARSENAL STREET

ST. LOUIS, MO 63118

ST. LOUIS, MO 63103

ESTIMATING:

STRUCTURAL ENGINEER:

MECHANICAL/ELECTRICAL:

#15 SUNNEN DRIVE, SUITE 104

ST. LOUIS, MO 63131

ST. LOUIS, MO 63141

ORIGINAL SIZE OF SHEET IS 30" X 42"

1 | 01/14/2015 | Amendment #4

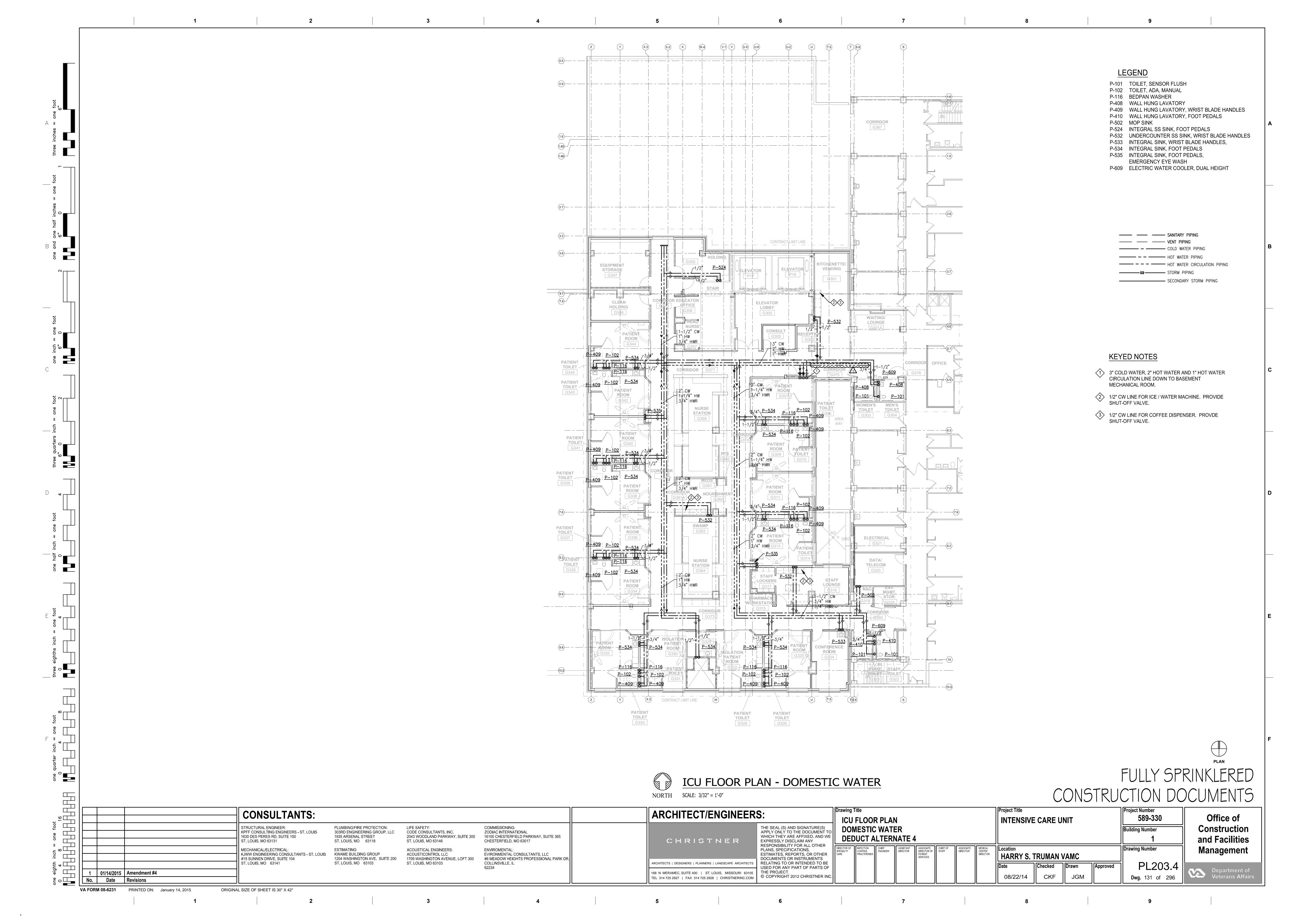
Revisions

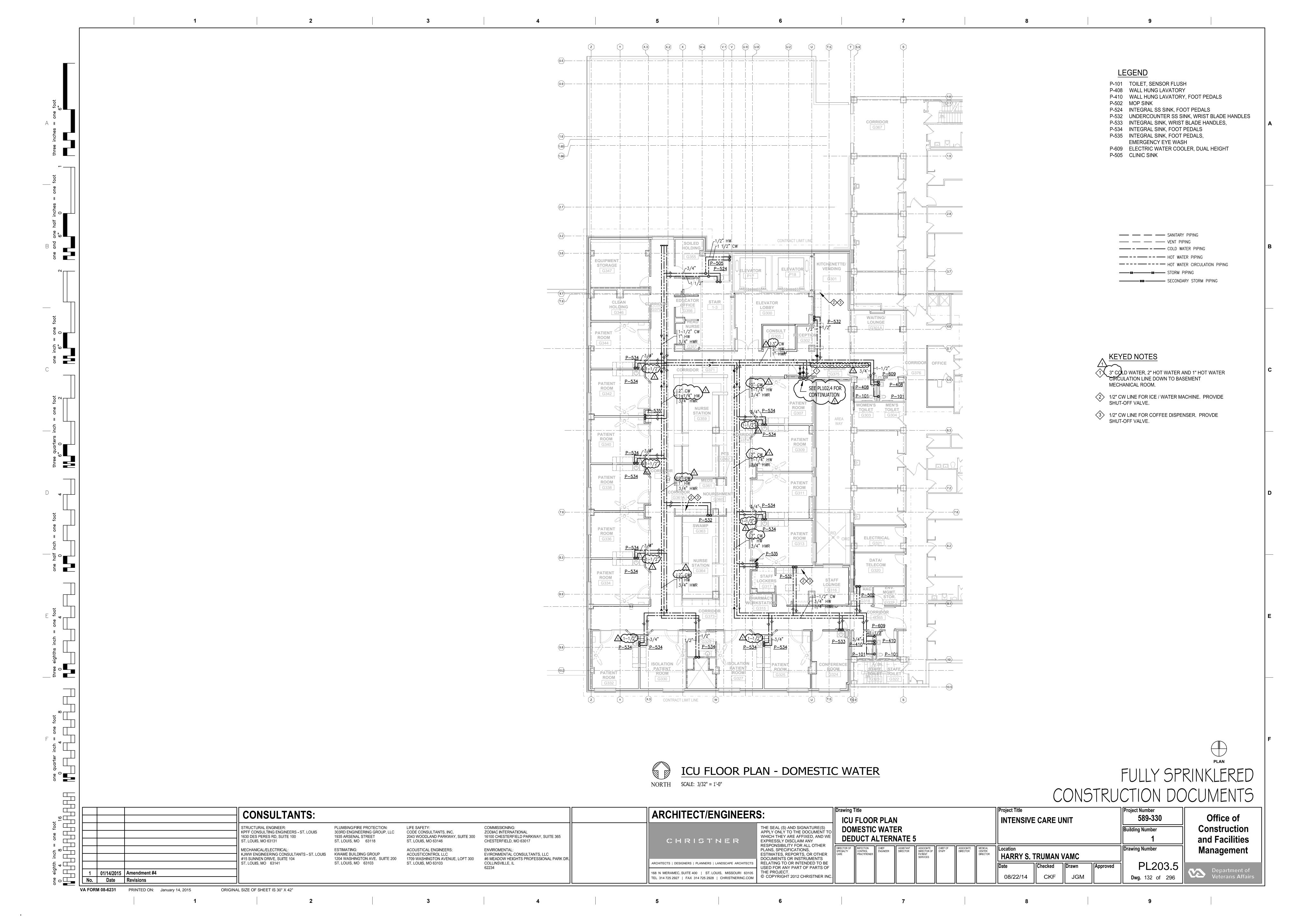
PRINTED ON: January 14, 2015

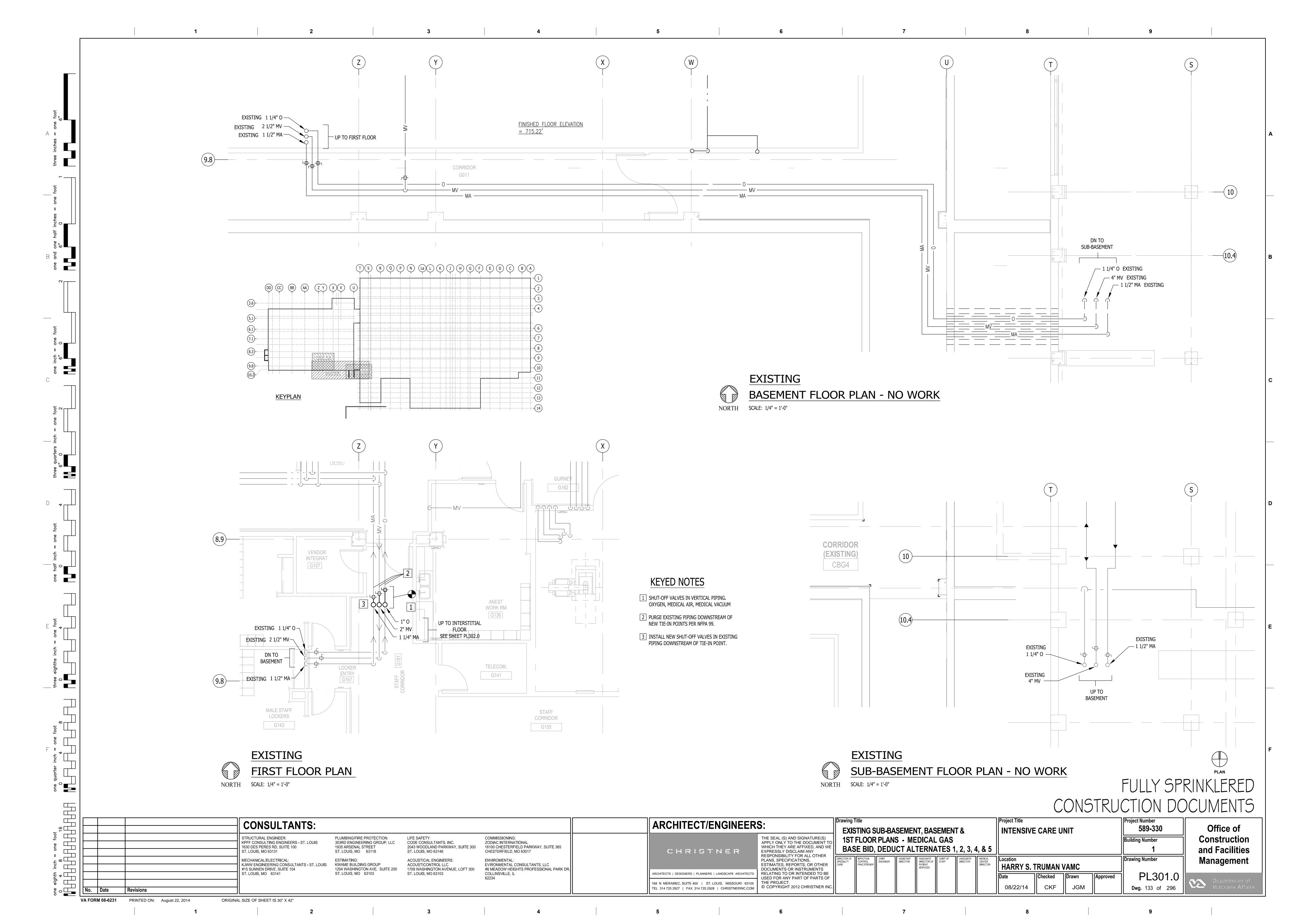
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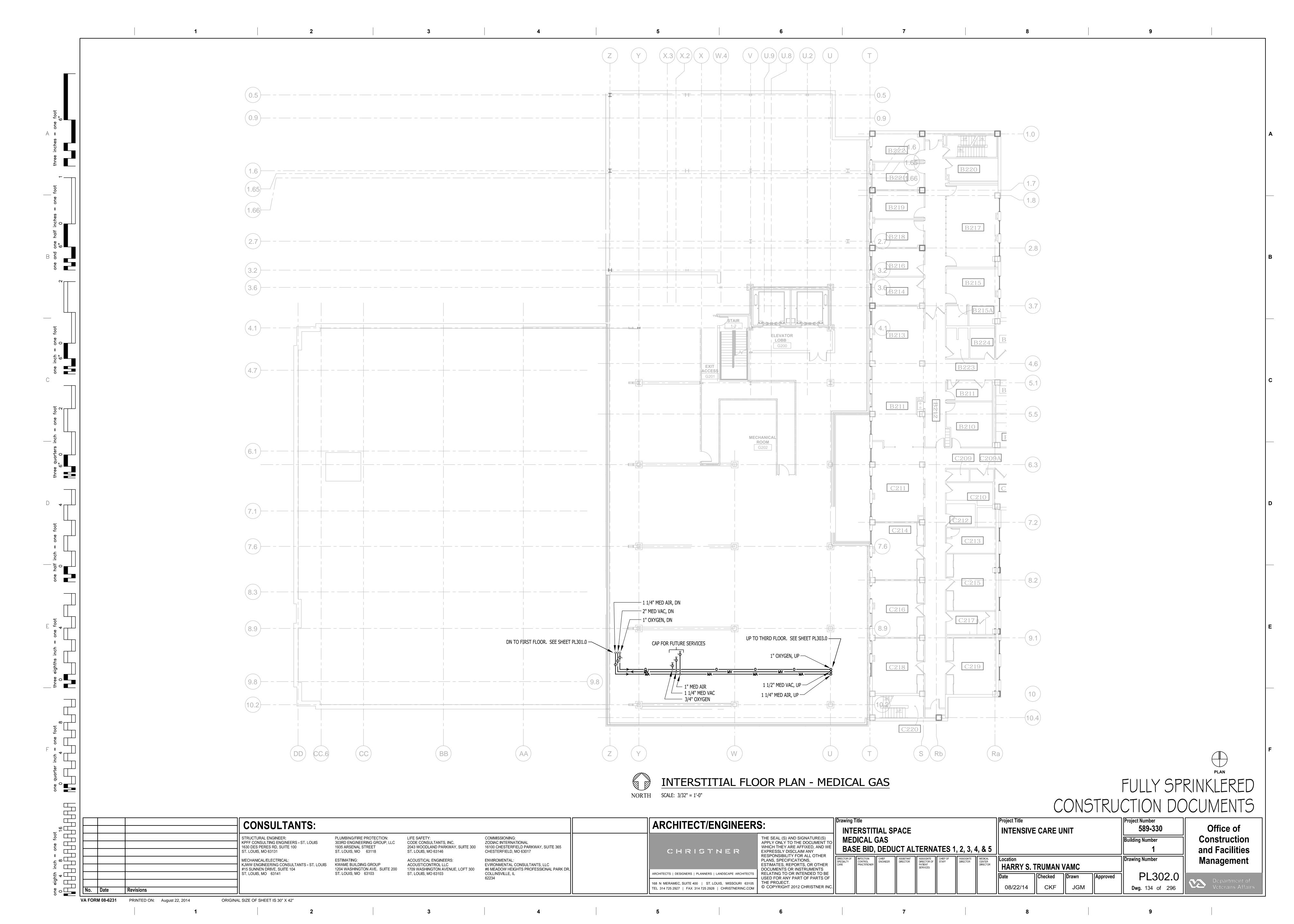
VA FORM 08-6231

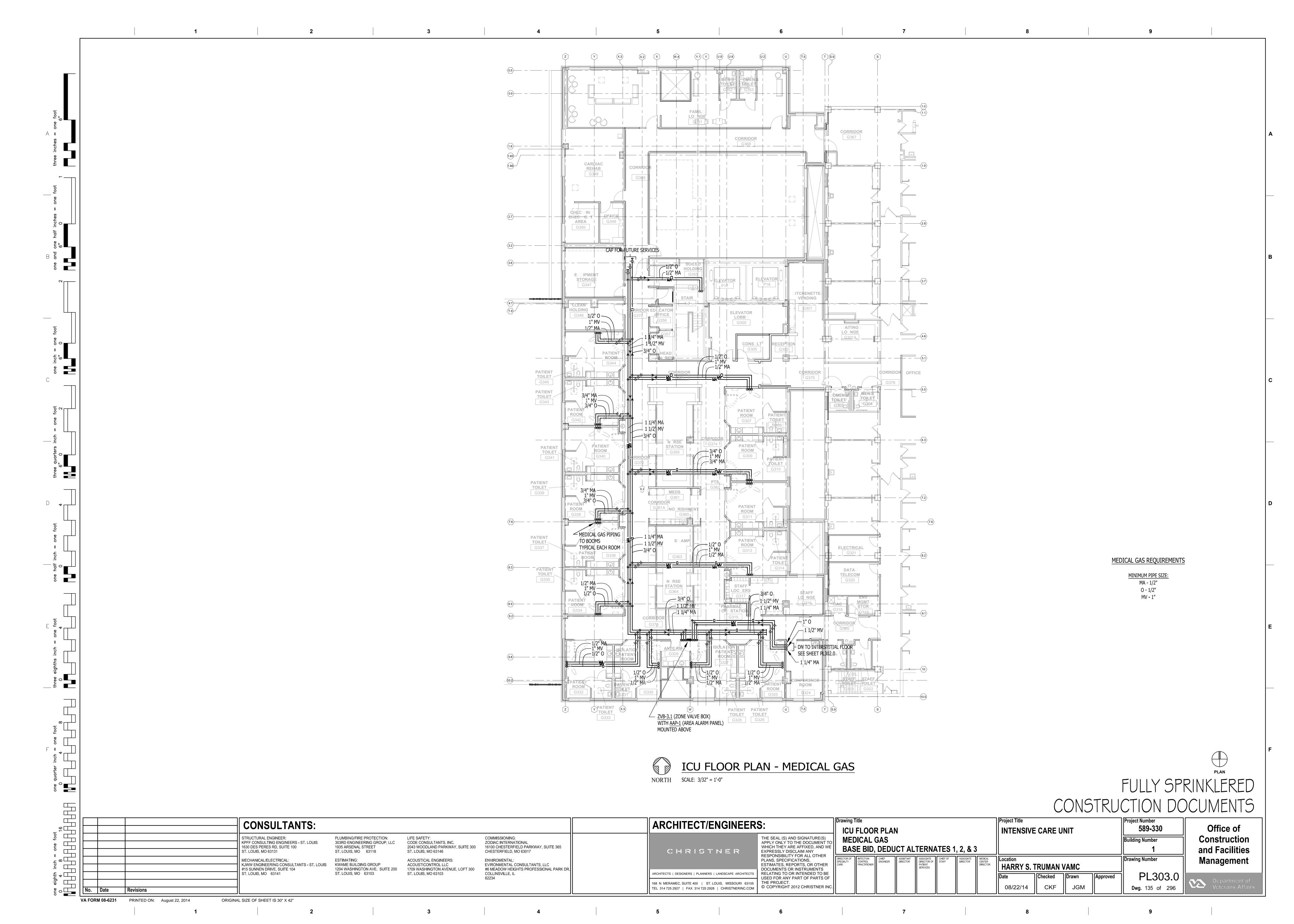
1630 DES PERES RD, SUITE 100

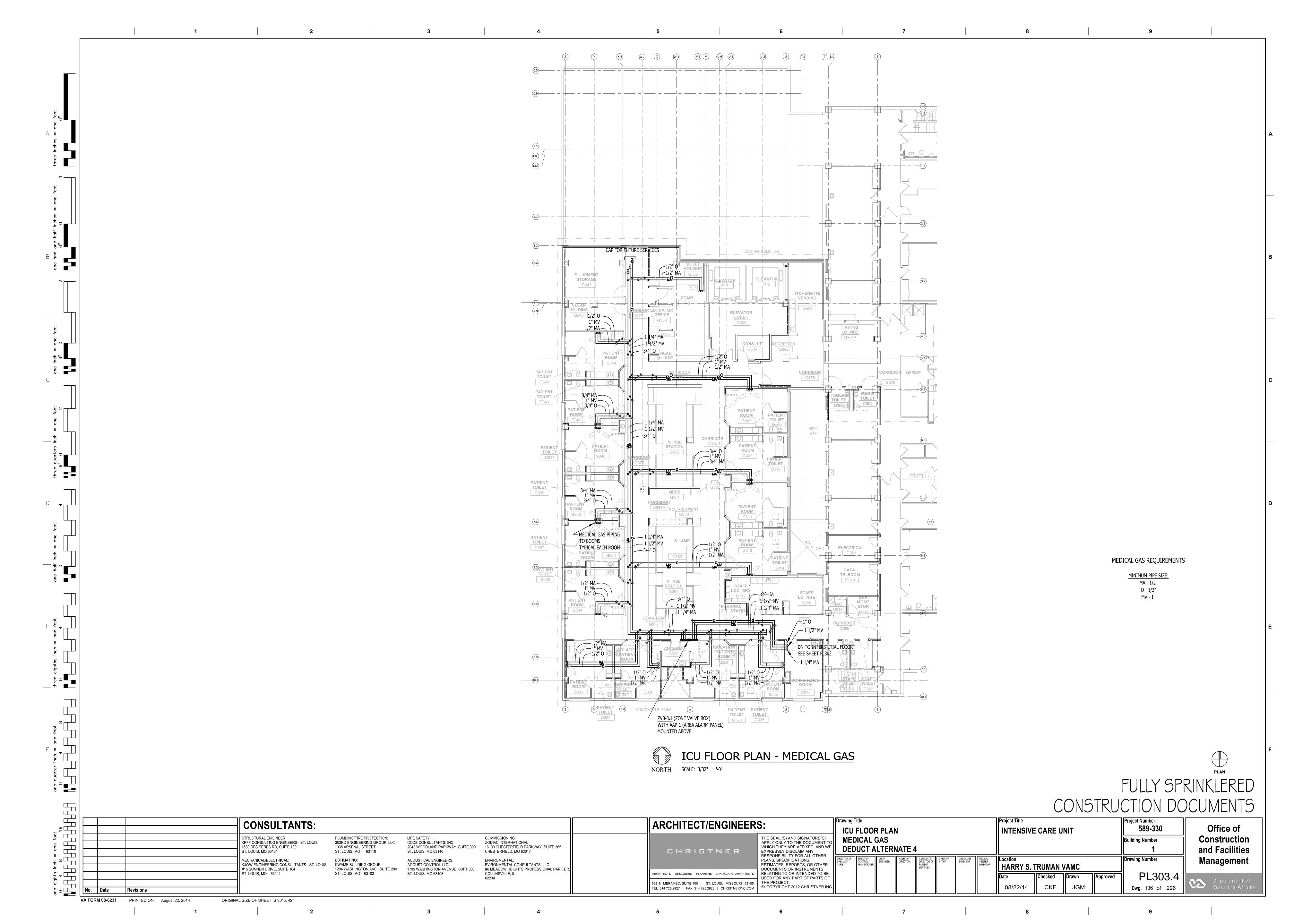


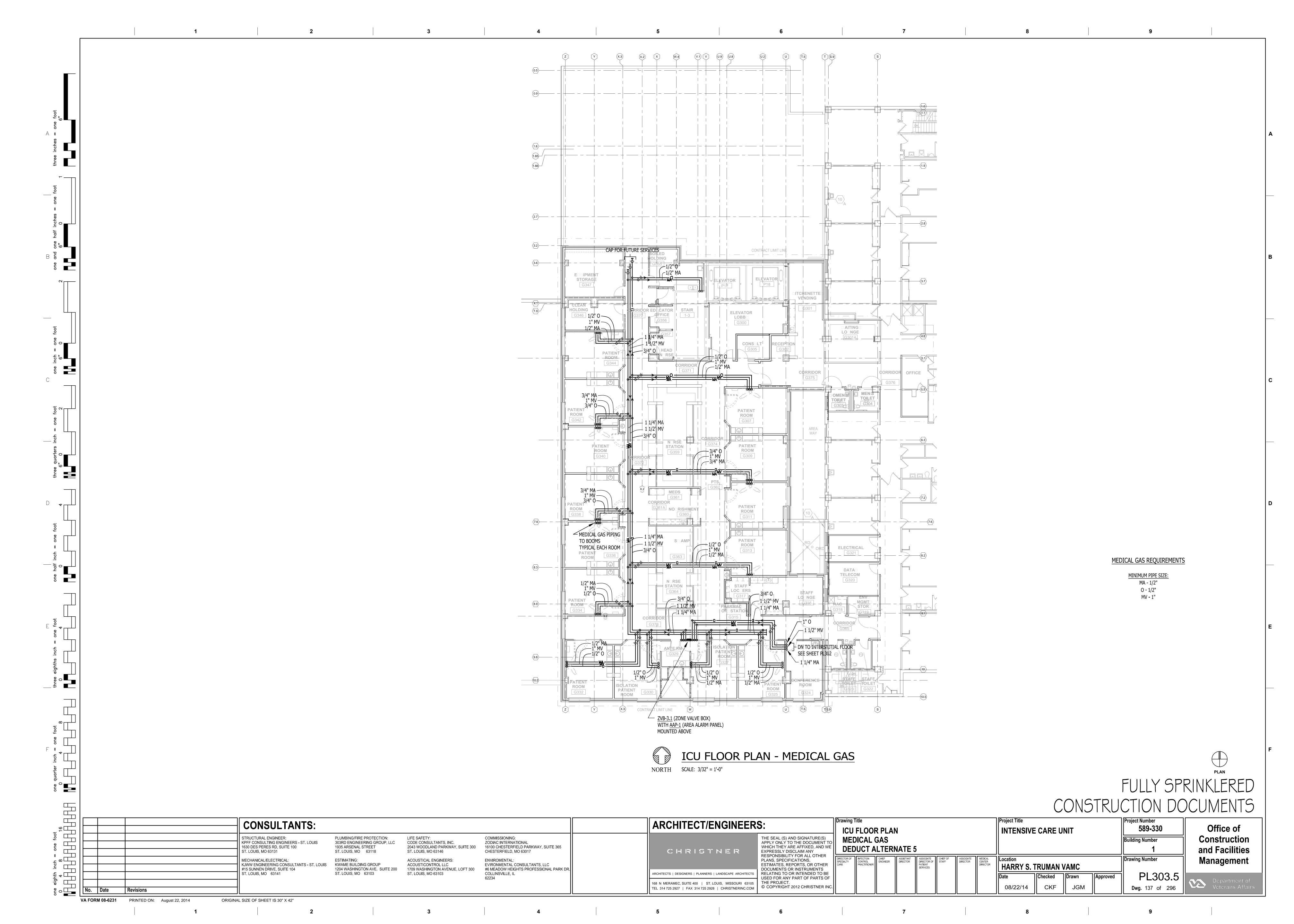












							F	PLUMBING	FIXTURE	SCHEDUL	E			
MADIC	DECODIDATION	WAST	TE PIPE	VENT	PIPE	COLD	WATER	HOT \	WATER	WASTE	WATER	WRIST BLADE	ELECTRIC	DEMARKO
MARK	DESCRIPTION -	IN	[mm]	IN	[mm]	IN	[mm]	IN	[mm]	FIXTURE UNITS	FIXTURE UNITS	HANDLES	SENSOR	REMARKS
P-101	ADA WATER CLOSET FLOOR MTD	3	[75]	2	[50]	1.25	[31]			6	10	N/A	YES	
P-102	ADA WATER CLOSET FLOOR MTD	3	[75]	2	[50]	1.25	[31]			6	10	N/A	NO	
P-408	WALL HUNG LAVATORY	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	YES	
P-409	WALL HUNG LAVATORY	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	YES	NO	
P-410	WALL HUNG LAVATORY	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	N/A	NO	FOOT OPERATED FAUCET
P-502	MOP SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	NO	
P-524	INTEGRAL STAINLESS STEEL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	NO	FOOT OPERATED FAUCET
P-532	UNDERMOUNT SINGLE STAINLESS STEEL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	YES	NO	
P-533	INTEGRAL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	YES	NO	GOOSENECK SPOUT
P-534	INTEGRAL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	NO	FOOT OPERATED FAUCET
P-535	INTEGRAL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	NO	FOOT OPERATED FAUCET AND EMERGENCY EYE WASH
P-536	UNDERMOUNT DOUBLE STAINLESS STEEL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	YES	NO	
P-604	ELECTRIC WATER COOLER	1.5	[ 38]	1.5	[ 38 ]	.5	[13]	-	-	2	1	NO	NO	
P-609	ELECTRIC WATER COOLER, DUAL HEIGHT	1.5	[ 38]	1.5	[ 38 ]	.5	[13]	-	-	2	1	NO	NO	DUAL HEIGHT WATER COOLER
FD-C	FLOOR DRAIN	3	[75]	2	[ 50 ]									

		CONSULTANTS:				ARCHITECT/ENGINEER	<b>S'</b>	Drawing Title SCHEDULES		Project Title INTENSIVE CARE UNIT	Project Number 589-330	Office of
		STRUCTURAL ENGINEER: KPFF CONSULTING ENGINEERS - ST. LOUIS 1630 DES PERES RD, SUITE 100 ST. LOUIS, MO 63131	PLUMBING/FIRE PROTECTION: 303RD ENGINEERING GROUP, LLC 1935 ARSENAL STREET ST. LOUIS, MO 63118	LIFE SAFETY: CODE CONSULTANTS, INC. 2043 WOODLAND PARKWAY, SUITE 300 ST. LOUIS, MO 63146	COMMISSIONING: ZODIAC INTERNATIONAL 16100 CHESTERFIELD PARKWAY, SUITE 365 CHESTERFIELD, MO 63017	CHRISTNER	WHICH THEY ARE AFFIXED, AND WE EXPRESSLY DISCLAIM ANY	PLUMBING BASE BID, DEDUCT	Γ ALTERNATES 1 & 2		Building Number  1	Construct and Facilit
		MECHANICAL/ELECTRICAL: KJWW ENGINEERING CONSULTANTS - ST. LOUIS #15 SUNNEN DRIVE, SUITE 104	ESTIMATING: KWAME BUILDING GROUP 1204 WASHINGTON AVE. SUITE 200 ST. LOUIS, MO 63103	ACOUSTICAL ENGINEERS: ACOUSTICONTROL LLC 1709 WASHINGTON AVENUE, LOFT 300	ENVIROMENTAL: EVIRONMENTAL CONSULTANTS, LLC #6 MEADOW HEIGHTS PROFESSIONAL PARK DR.	ADCULTECTS   DESIGNEDS   DI ANNEDS   L'ANDSCADE ADCULTECTS	RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE	DIRECTOR OF SPECIALTY CONTROL PRACTITIONER PRACTITIONER	ASSISTANT DIRECTOR OF PATIENT SERVICES CHIEF OF STAFF DIRECTOR DIR	Location HARRY S. TRUMAN VAMC	Drawing Number	Manager
1/14/	/15 Amendment #4 Revisions	ST. LOUIS, MO 63141	31. LOUIS, MO 63103	ST. LOUIS, MO 63103	COLLINSVILLE, IL 62234	168 N MERAMEC, SUITE 400   ST. LOUIS, MISSOURI 63105 TEL 314 725 2927   FAX 314 725 2928   CHRISTNERINC.COM	USED FOR ANY PART OF PARTS OF THE PROJECT.  © COPYRIGHT 2012 CHRISTNER INC.			Date Checked Drawn Apple 08/22/14 CKF JGM	PL401.0  Dwg. 138 of 296	Depar Vetera

							F	PLUMBING	FIXTURE	SCHEDUL	E			
MARK	DESCRIPTION	WAST	E PIPE	VEN	T PIPE	COLD	WATER	HOT V	VATER	WASTE FIXTURE	WATER FIXTURE	WRIST BLADE	E ELECTRIC	REMARKS
WARK	DESCRIPTION	IN	[mm]	IN	[mm]	IN	[mm]	IN	[mm]	UNITS	UNITS	HANDLES	SENSOR	REWARKS
P-101	ADA WATER CLOSET FLOOR MTD	3	[ 75 ]	2	[ 50 ]	1.25	[31]			6	10	N/A	YES	REAR OUTLET DISCHARGE
P-102	ADA WATER CLOSET FLOOR MTD	3	[75]	2	[ 50 ]	1.25	[31]			6	10	N/A	NO	REAR OUTLET DISCHARGE
P-116	BED PAN CLEANER					.5	[13]	.5	[13]			N/A	N/A	
P-408	WALL HUNG LAVATORY	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	YES	
P-409	WALL HUNG LAVATORY	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	YES	NO	
P-410	WALL HUNG LAVATORY	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	N/A	NO	FOOT OPERATED FAUCET, SEE ARCHITECTURAL CASEWORK DETAILS
P-502	MOP SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	NO	
P-524	INTEGRAL STAINLESS STEEL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[ 13 ]	.5	[13]	2	2	NO	NO	FOOT OPERATED FAUCET, SEE ARCHITECTURAL CASEWORK DETAILS
P-532	UNDERMOUNT SINGLE STAINLESS STEEL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	YES	NO	
P-533	INTEGRAL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[ 13 ]	.5	[13]	2	2	YES	NO	GOOSENECK SPOUT
P-534	INTEGRAL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[ 13 ]	.5	[13]	2	2	NO	NO	FOOT OPERATED FAUCET , SEE ARCHITECTURAL CASEWORK DETAILS
P-535	INTEGRAL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	NO	FOOT OPERATED FAUCET AND DECK-MOUNTED EMERGENCY EYE WASH WITH TEMPERED MIXING VALVE SEE ARCHITECTURAL CASEWORK DETAILS
P-609	ELECTRIC WATER COOLER, DUAL HEIGHT	1.5	[ 38]	1.5	[ 38 ]	.5	[13]	-	-	2	1	NO	NO	DUAL HEIGHT WATER COOLER
FD-C	FLOOR DRAIN	3	[75]	2	[ 50 ]									

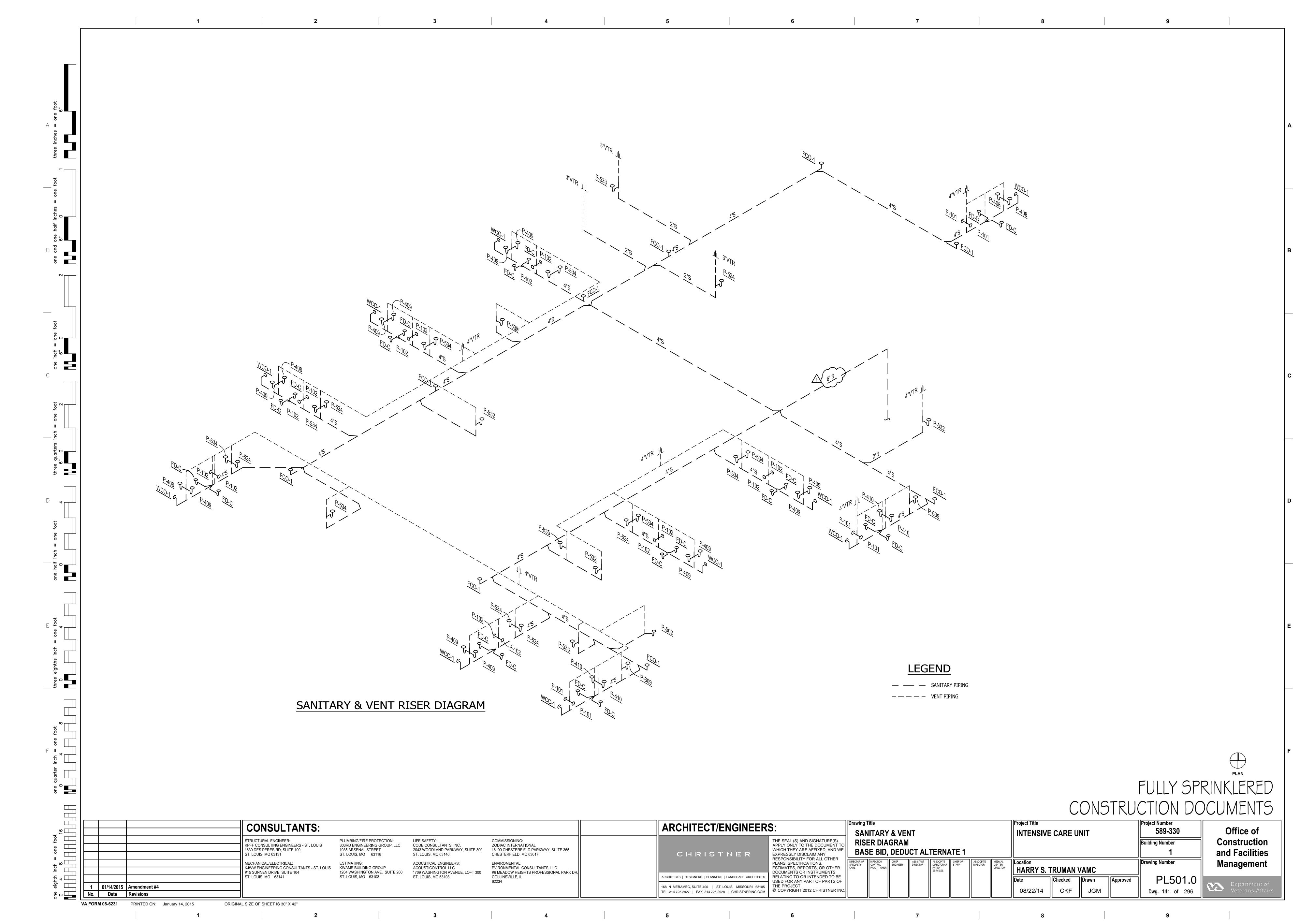
		CONSULTANTS:				ARCHITECT/ENGINEERS:		Drawing Title SCHEDULES		Project Title INTENSIVE CARE UNIT	Project Number 589-330	Office
		STRUCTURAL ENGINEER: KPFF CONSULTING ENGINEERS - ST. LOUIS 1630 DES PERES RD, SUITE 100 ST. LOUIS, MO 63131	PLUMBING/FIRE PROTECTION: 303RD ENGINEERING GROUP, LLC 1935 ARSENAL STREET ST. LOUIS, MO 63118	LIFE SAFETY: CODE CONSULTANTS, INC. 2043 WOODLAND PARKWAY, SUITE 300 ST. LOUIS, MO 63146	COMMISSIONING: ZODIAC INTERNATIONAL 16100 CHESTERFIELD PARKWAY, SUITE 365 CHESTERFIELD, MO 63017	CHRISTNER EX	HE SEAL (S) AND SIGNATURE(S) PPLY ONLY TO THE DOCUMENT TO /HICH THEY ARE AFFIXED, AND WE XPRESSLY DISCLAIM ANY	PLUMBING DEDUCT ALTERNATES 3 &	4		Building Number  1	Constru
		MECHANICAL/ELECTRICAL: KJWW ENGINEERING CONSULTANTS - ST. LOUIS #15 SUNNEN DRIVE, SUITE 104 ST. LOUIS, MO 63141	ESTIMATING: KWAME BUILDING GROUP 1204 WASHINGTON AVE. SUITE 200 ST. LOUIS, MO 63103	ACOUSTICAL ENGINEERS: ACOUSTICONTROL LLC 1709 WASHINGTON AVENUE, LOFT 300 ST. LOUIS, MO 63103	ENVIROMENTAL: EVIRONMENTAL CONSULTANTS, LLC #6 MEADOW HEIGHTS PROFESSIONAL PARK DR. COLLINSVILLE, IL	ARCHITECTS   DESIGNERS   PLANNERS   LANDSCAPE ARCHITECTS   RE	ESPONSIBILITY FOR ALL OTHER LANS, SPECIFICATIONS, STIMATES, REPORTS, OR OTHER OCUMENTS OR INSTRUMENTS ELATING TO OR INTENDED TO BE SED FOR ANY PART OF PARTS OF	DIRECTOR OF SPECIALTY CONTROL PRACTITIONER PATISER  OR SPECIAL	CCIATE CHIEF OF STAFF ASSOCIATE DIRECTOR DIRECTOR DIRECTOR	Location HARRY S. TRUMAN VAMC  Date Checked Drawn Ap	Drawing Number PL401.3	Manage
1/14/15	5 Amendment #4 Revisions	]			62234	168 N MERAMEC SUITE 400   ST LOUIS MISSOURI 63105   Th	HE PROJECT.  COPYRIGHT 2012 CHRISTNER INC.			08/22/14   CKF   JGM		Deb

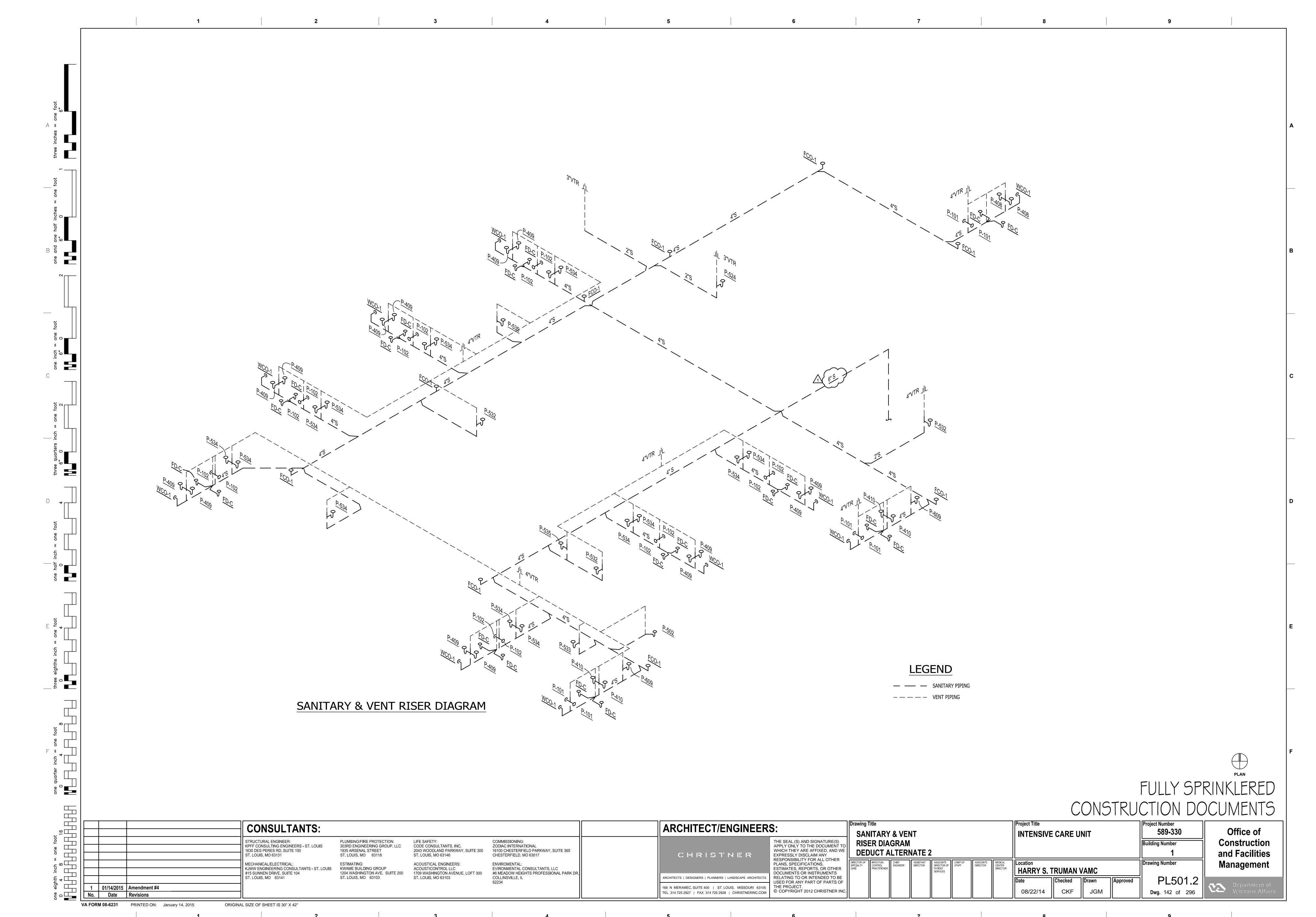
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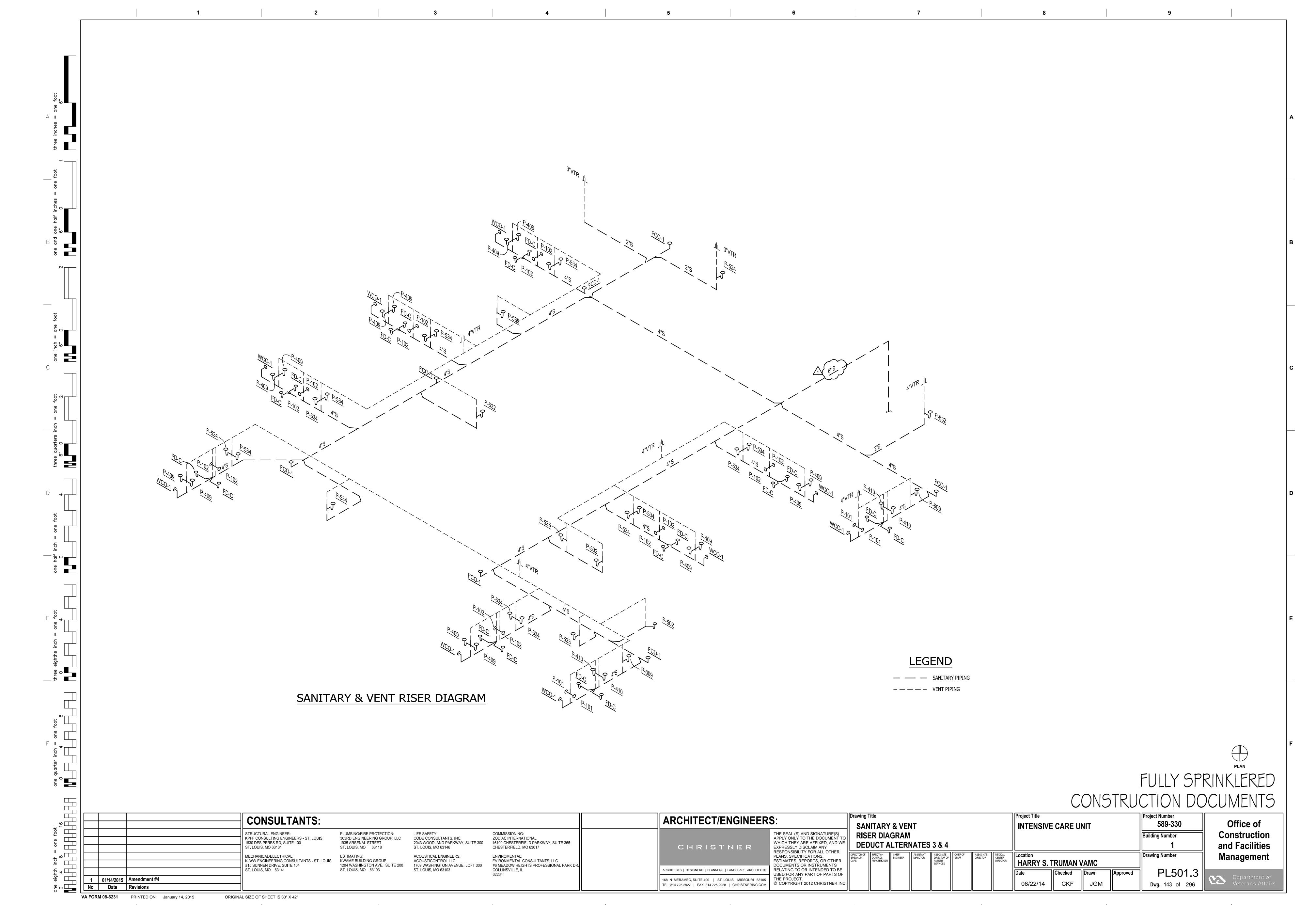
							F	PLUMBING	FIXTURE	SCHEDUL	E			
MADIZ	DECODIDATION	WAS <sup>-</sup>	TE PIPE	VEN	T PIPE	COLD	WATER	нот у	VATER	WASTE	WATER	WRIST BLADE	ELECTRIC	DEMARKS
MARK	DESCRIPTION	IN	[mm]	IN	[mm]	IN	[mm]	IN	[mm]	FIXTURE UNITS	FIXTURE UNITS	HANDLES	SENSOR	REMARKS
P-101	ADA WATER CLOSET FLOOR MTD	3	[75]	2	[ 50 ]	1.25	[31]			6	10	N/A	YES	REAR OUTLET DISCHARGE
P-408	WALL HUNG LAVATORY	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	YES	
P-410	WALL HUNG LAVATORY	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	N/A	NO	FOOT OPERATED FAUCET, SEE ARCHITECTURAL CASEWORK DETAILS
P-502	MOP SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	NO	
P-524	INTEGRAL STAINLESS STEEL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	NO	FOOT OPERATED FAUCET, SEE ARCHITECTURAL CASEWORK DETAILS
P-532	UNDERMOUNT SINGLE STAINLESS STEEL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	YES	NO	
P-533	INTEGRAL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	YES	NO	GOOSENECK SPOUT
P-534	INTEGRAL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	NO	FOOT OPERATED FAUCET , SEE ARCHITECTURAL CASEWORK DETAILS
P-535	INTEGRAL SINK	2	[ 50 ]	1.5	[ 38 ]	.5	[13]	.5	[13]	2	2	NO	NO	FOOT OPERATED FAUCET AND DECK-MOUNTED EMERGENCY EYE WASH WITH TEMPERED MIXING VALVE SEE ARCHITECTURAL CASEWORK DETAILS
P-609	ELECTRIC WATER COOLER, DUAL HEIGHT	1.5	[ 38]	1.5	[ 38 ]	.5	[13]	-	-	2	1	NO	NO	DUAL HEIGHT WATER COOLER
FD-C	FLOOR DRAIN	3	[75]	2	[ 50 ]									
P-505	CLINIC SINK	3	[75]	2	[ 50 ]	1.25	[31]	.5	[10]	6	10	N/A	NO	FOOT PEDAL OPERATOR FOR BED PAN WASHER

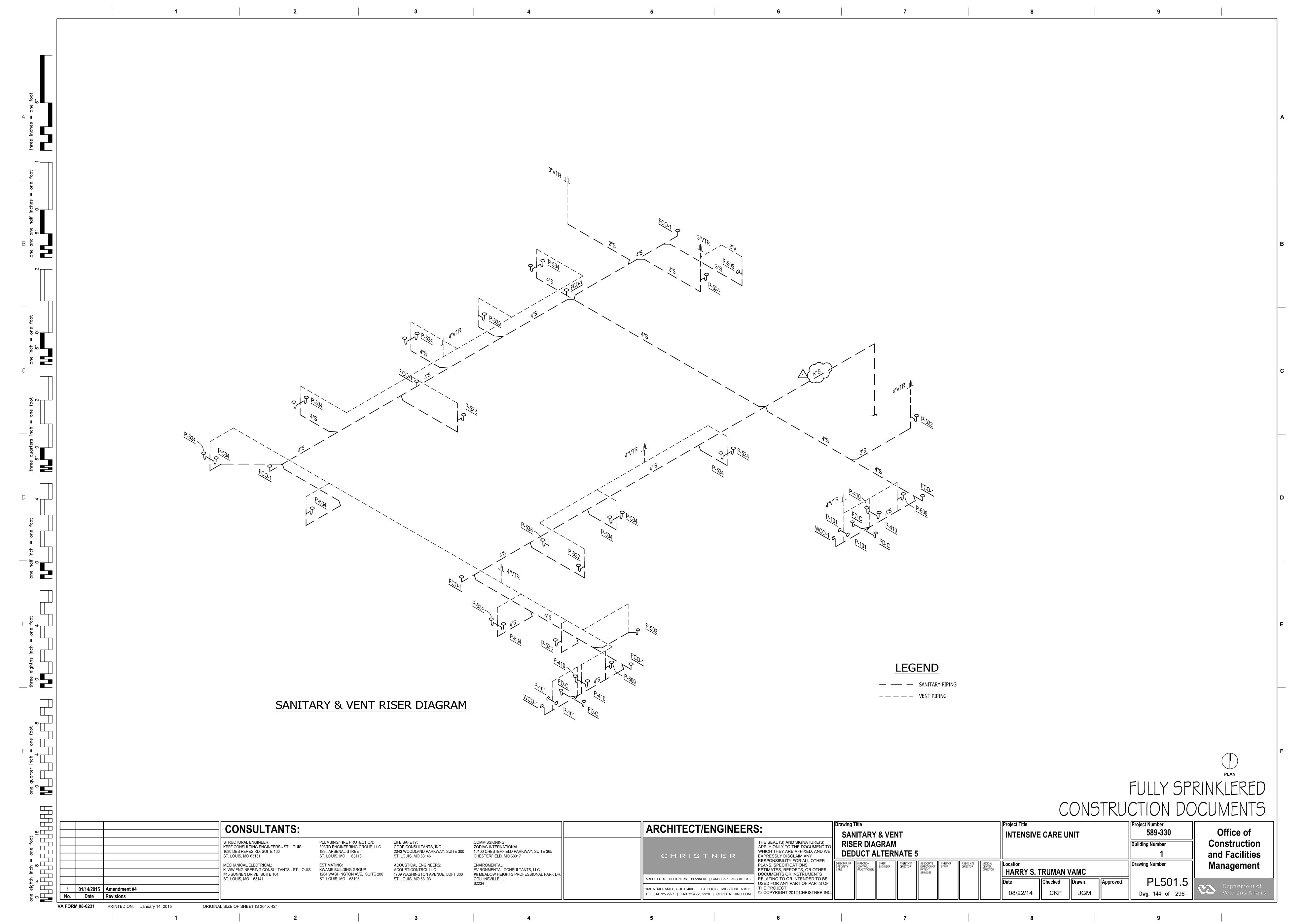
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			CONSULTANTS:				ARCHITECT/E	IGINEE	RS:	Drawing Title SCHEDULES				Project Title INTENSIVI	E CARE UN	NIT		Project Number 589-330	Office of
			STRUCTURAL ENGINEER: KPFF CONSULTING ENGINEERS - ST. LOUIS 1630 DES PERES RD, SUITE 100 ST. LOUIS, MO 63131	PLUMBING/FIRE PROTECTION: 303RD ENGINEERING GROUP, LLC 1935 ARSENAL STREET ST. LOUIS, MO 63118	LIFE SAFETY: CODE CONSULTANTS, INC. 2043 WOODLAND PARKWAY, SUITE 300 ST. LOUIS, MO 63146	COMMISSIONING: ZODIAC INTERNATIONAL 16100 CHESTERFIELD PARKWAY, SUITE 365 CHESTERFIELD, MO 63017	CHRIST	1 E R	THE SEAL (S) AND SIGNATURE(S) APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND WE EXPRESSLY USY SON AND OTHER	PLUMBING DEDUCT ALTERNATE	5							Building Number  1	Construction and Facilitie
			MECHANICAL/ELECTRICAL: KJWW ENGINEERING CONSULTANTS - ST. LOUIS #15 SUNNEN DRIVE, SUITE 104 ST. LOUIS, MO 63141	ESTIMATING: KWAME BUILDING GROUP 1204 WASHINGTON AVE. SUITE 200 ST. LOUIS, MO 63103	ACOUSTICAL ENGINEERS: ACOUSTICONTROL LLC 1709 WASHINGTON AVENUE, LOFT 300 ST. LOUIS, MO 63103	ENVIROMENTAL: EVIRONMENTAL CONSULTANTS, LLC #6 MEADOW HEIGHTS PROFESSIONAL PARK DR. COLLINSVILLE, IL	ARCHITECTS   DESIGNERS   PLANNERS	ANDSCAPE ARCHITECT	RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE	DIRECTOR OF SPECIALTY CONTROL CHIEF ENGINEER DIRECTOR PRACTITIONER	ASSOCIATE DIRECTOR OF PATIENT SERVICES	F OF ASSOCIATE DIRECTOR	CENTER	HARRY S.				Drawing Number	Managemen
1 No	1/14/15 . Date	Amendment #4  Revisions				62234	168 N MERAMEC, SUITE 400   ST. L TEL 314 725 2927   FAX 314 725 2928		USED FOR ANY PART OF PARTS OF THE PROJECT. © COPYRIGHT 2012 CHRISTNER INC.					08/22/14	Checked CKF	Drawn JGM	Approved	PL401.5  Dwg. 140 of 296	Department (Veterans Aff

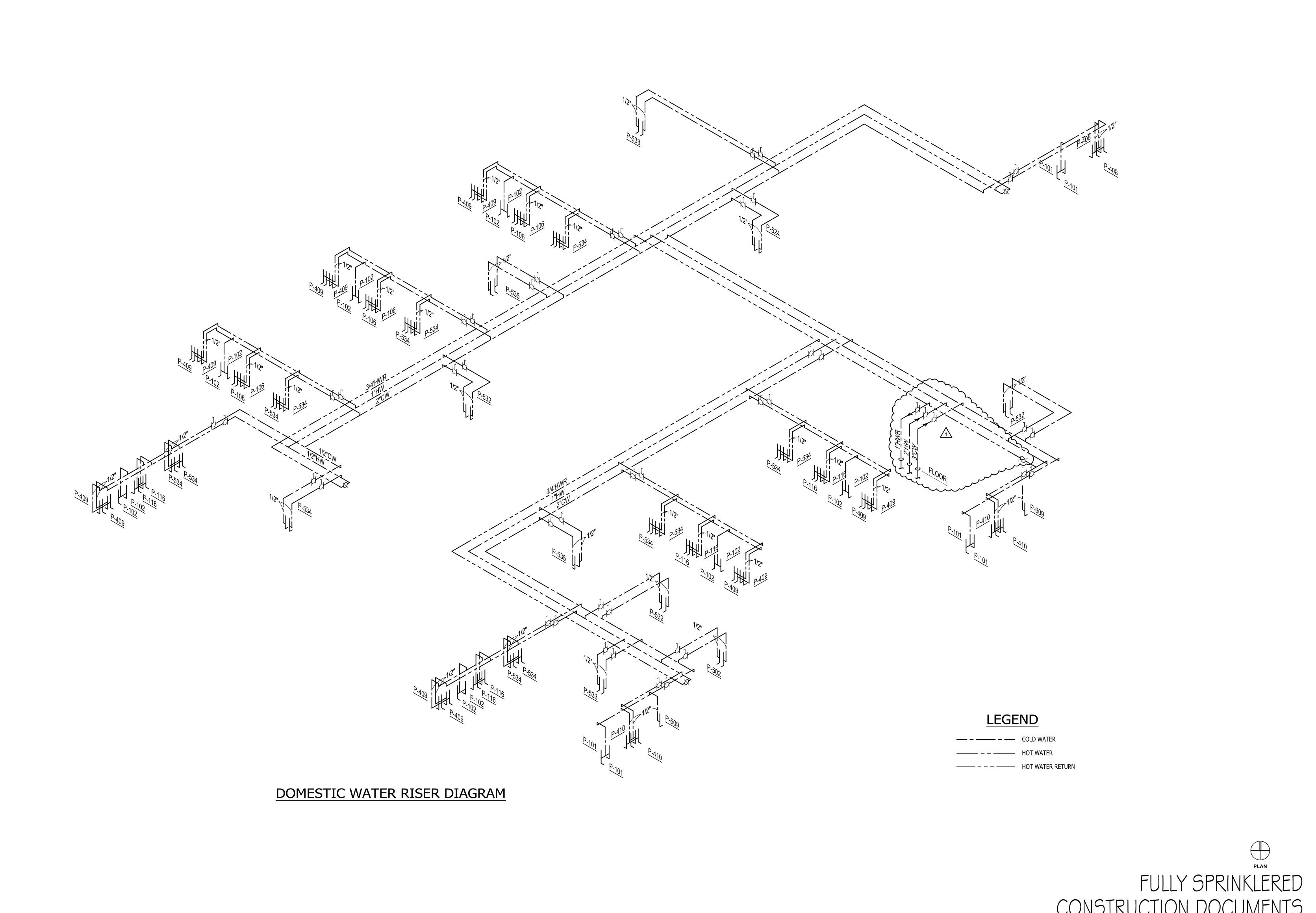
PRINTED ON: December 23, 2014





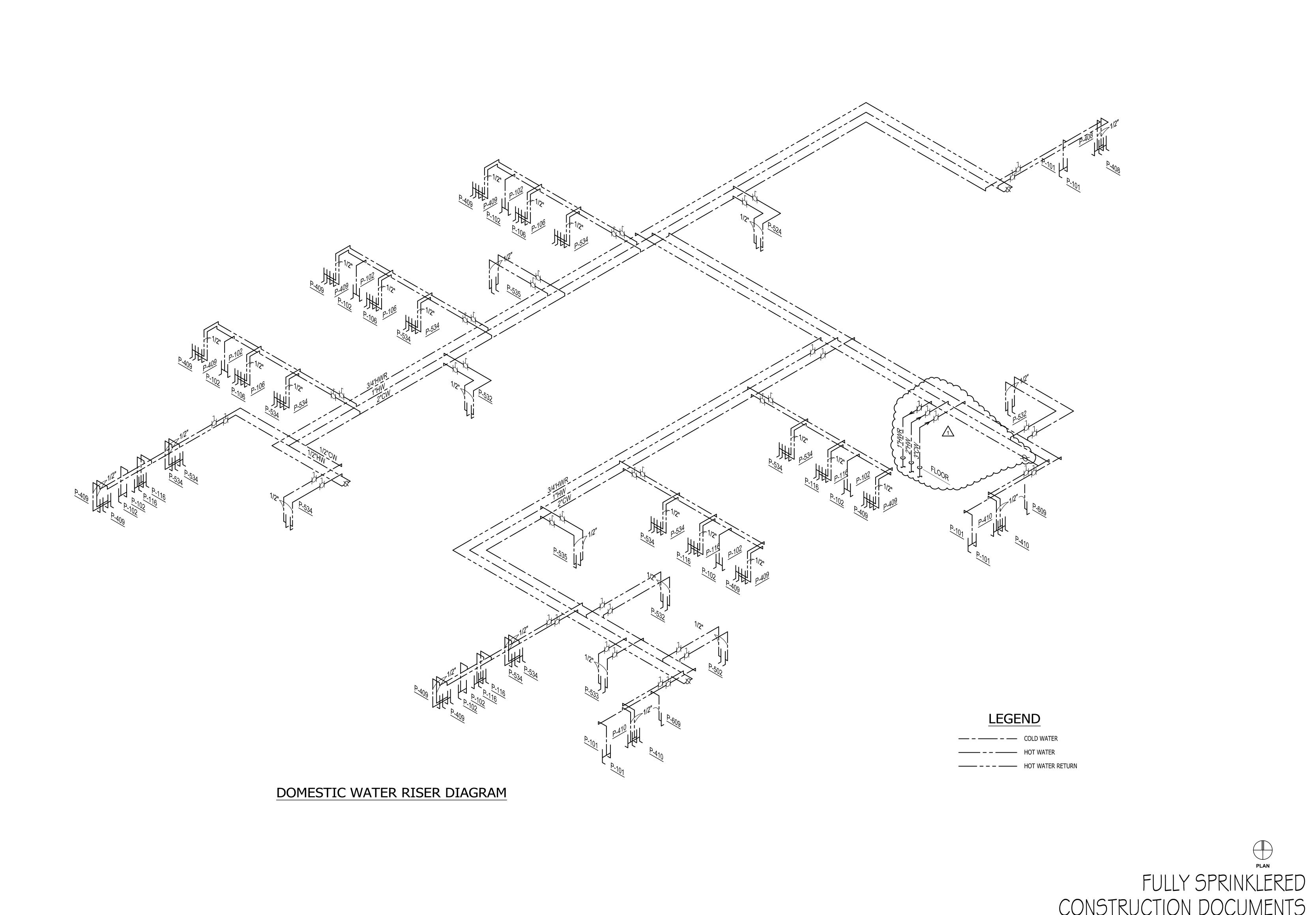






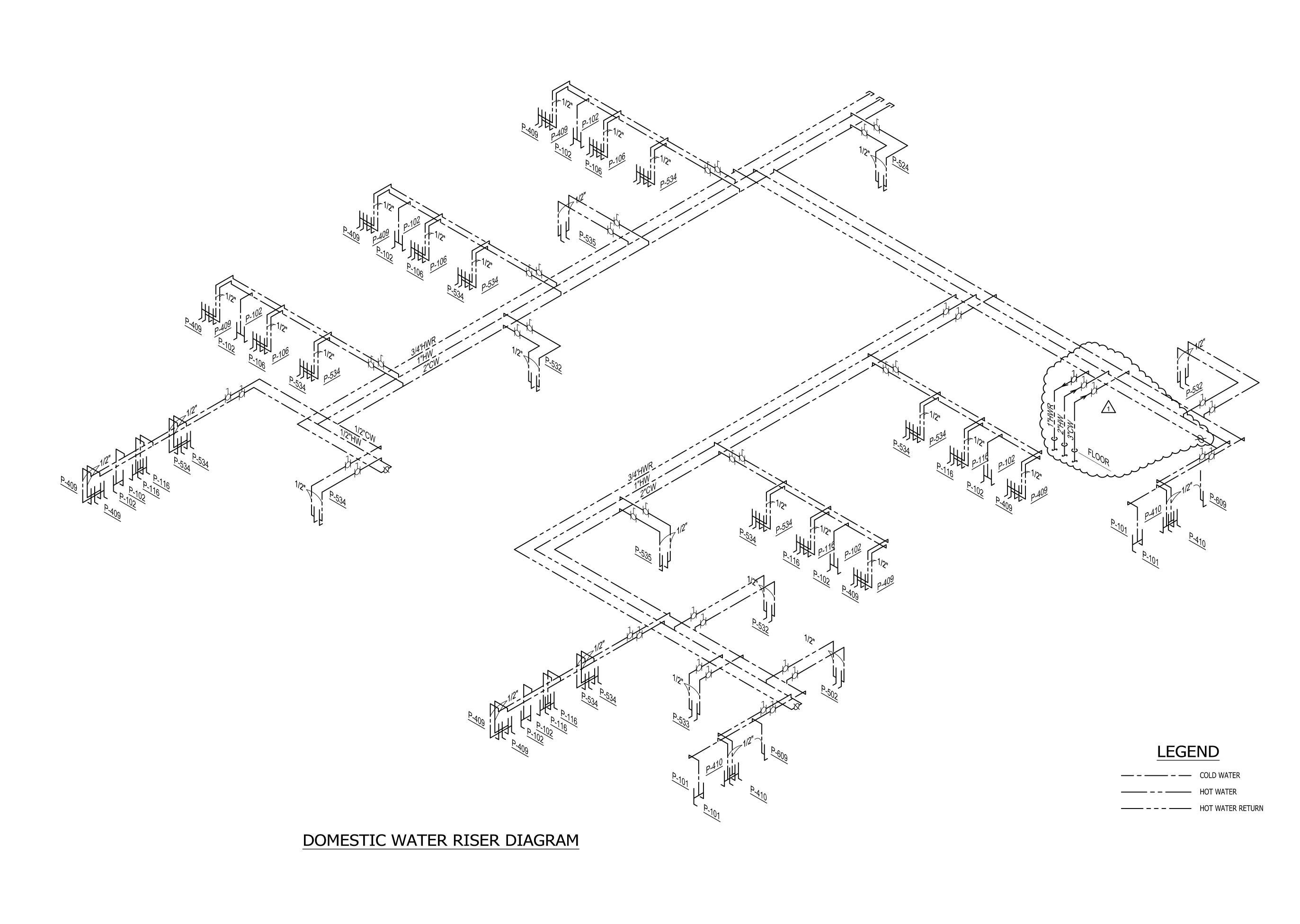
# CONSTRUCTION DOCUMENTS

	CONSULTANTS:				ARCHITECT/ENGINEER	RS:	Drawing Title  DOMESTIC	: WATFR			Project Title INTENSIVE	CARF UNIT		Project Number 589-330	Office o
	STRUCTURAL ENGINEER: KPFF CONSULTING ENGINEERS - ST. LOUIS 1630 DES PERES RD, SUITE 100 ST. LOUIS, MO 63131	PLUMBING/FIRE PROTECTION: 303RD ENGINEERING GROUP, LLC 1935 ARSENAL STREET ST. LOUIS, MO 63118	LIFE SAFETY: CODE CONSULTANTS, INC. 2043 WOODLAND PARKWAY, SUITE 300 ST. LOUIS, MO 63146	COMMISSIONING: ZODIAC INTERNATIONAL 16100 CHESTERFIELD PARKWAY, SUITE 365 CHESTERFIELD, MO 63017	CHRISTNER	THE SEAL (S) AND SIGNATURE(S) APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND WE EXPRESSLY DISCLAIM ANY	RISER DIA		TERNATE 1			O/ II C O I I I		Building Number  1	Construc and Facil
	MECHANICAL/ELECTRICAL: KJWW ENGINEERING CONSULTANTS - ST. LOUIS #15 SUNNEN DRIVE, SUITE 104 ST. LOUIS, MO 63141	ESTIMATING: KWAME BUILDING GROUP 1204 WASHINGTON AVE. SUITE 200 ST. LOUIS, MO 63103	ACOUSTICAL ENGINEERS: ACOUSTICONTROL LLC 1709 WASHINGTON AVENUE, LOFT 300 ST. LOUIS, MO 63103	ENVIROMENTAL: EVIRONMENTAL CONSULTANTS, LLC #6 MEADOW HEIGHTS PROFESSIONAL PARK DR. COLLINSVILLE, IL 62234	ARCHITECTS   DESIGNERS   PLANNERS   LANDSCAPE ARCHITECTS	RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE USED FOR ANY PART OF PARTS OF	DIRECTOR OF SPECIALTY CONTROL PRACTITIONER	CHIEF ASSISTANT DIRECTOR	ASSOCIATE DIRECTOR OF STAFF PATIENT SERVICES	ASSOCIATE DIRECTOR MEDICAL CENTER DIRECTOR	Location HARRY S. 7	RUMAN VAMO		Drawing Number PL502.0	Managem
01/14/2015 Amendment #4  Date Revisions				02234	168 N MERAMEC, SUITE 400   ST. LOUIS, MISSOURI 63105 TEL 314 725 2927   FAX 314 725 2928   CHRISTNERINC.COM	THE PROJECT. © COPYRIGHT 2012 CHRISTNER INC					08/22/14		SM Proved	Dwg. 145 of 296	Departi Veterai

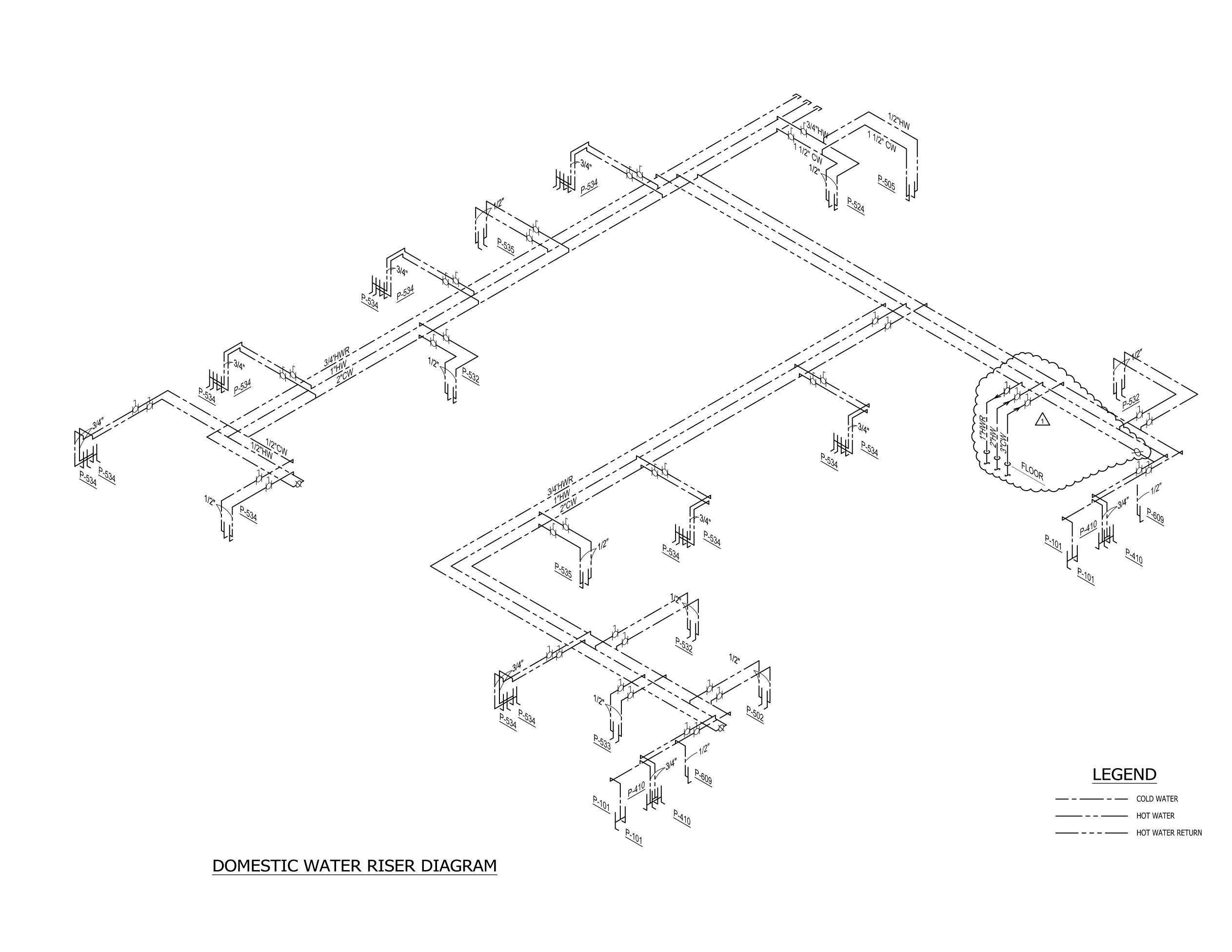


# CONSTRUCTION DOCUMENTS

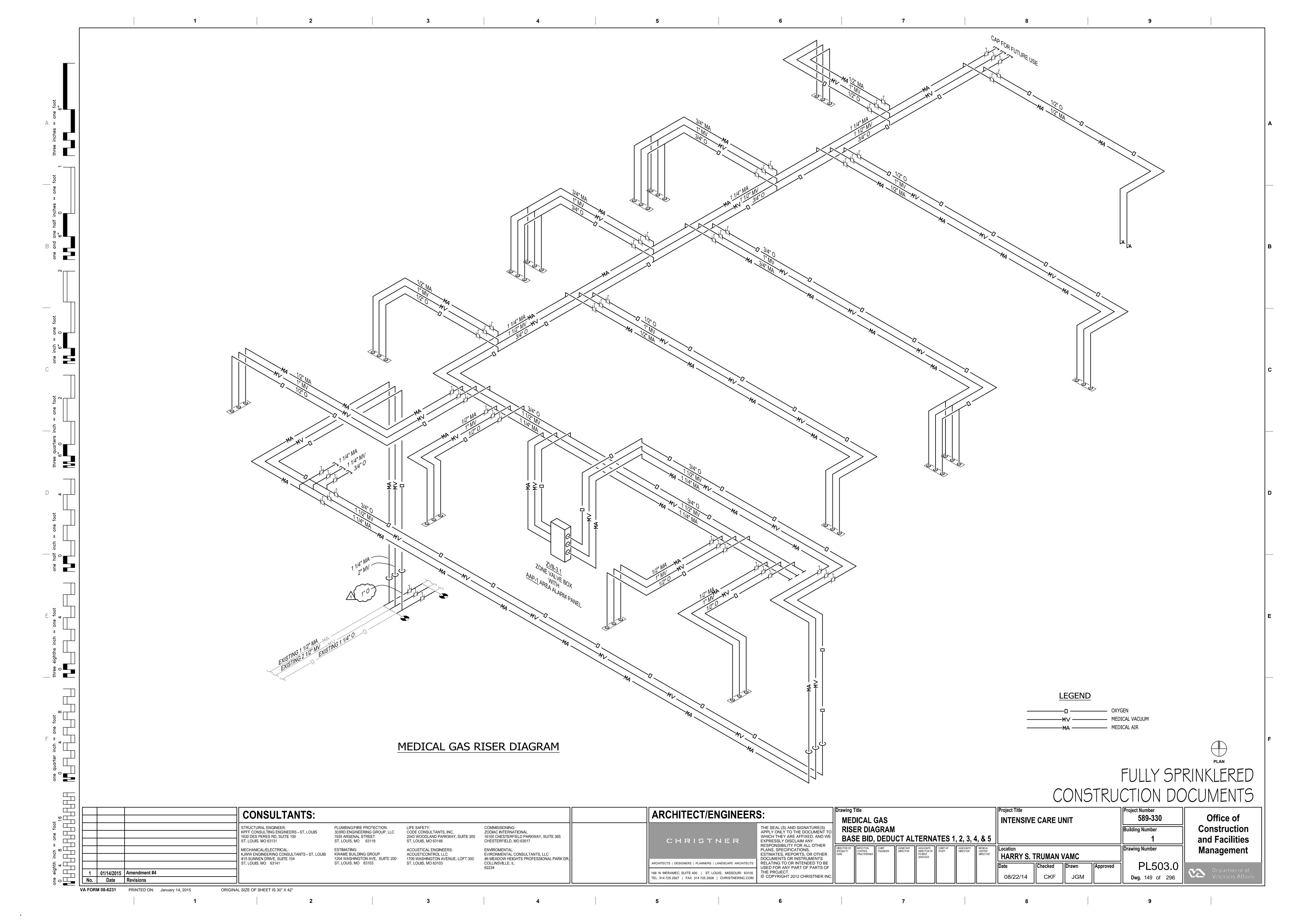
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		STRUCTURAL ENGINEER:  KPFF CONSULTING ENGINEERS - ST. LOUIS  1630 DES PERES RD, SUITE 100  ST. LOUIS, MO 63131	PLUMBING/FIRE PROTECTION: 303RD ENGINEERING GROUP, LLC 1935 ARSENAL STREET ST. LOUIS, MO 63118	LIFE SAFETY: CODE CONSULTANTS, INC. 2043 WOODLAND PARKWAY, SUITE 300 ST. LOUIS, MO 63146	COMMISSIONING: ZODIAC INTERNATIONAL 16100 CHESTERFIELD PARKWAY, SUITE 365 CHESTERFIELD, MO 63017	THE SEAL (S) AND SIGNATURE APPLY ONLY TO THE DOCUME WHICH THEY ARE AFFIXED, AN EXPRESSLY DISCLAIM ANY	RISER DIAGRAM DEDUCT ALTERNATE 2		Building Number  1	Constructi and Facilit
		MECHANICAL/ELECTRICAL: KJWW ENGINEERING CONSULTANTS - ST. LOUIS #15 SUNNEN DRIVE, SUITE 104 ST. LOUIS, MO 63141	ESTIMATING: KWAME BUILDING GROUP 1204 WASHINGTON AVE. SUITE 200 ST. LOUIS, MO 63103	ACOUSTICAL ENGINEERS: ACOUSTICONTROL LLC 1709 WASHINGTON AVENUE, LOFT 300 ST. LOUIS, MO 63103	ENVIROMENTAL: EVIRONMENTAL CONSULTANTS, LLC #6 MEADOW HEIGHTS PROFESSIONAL PARK DR. COLLINSVILLE, IL	RESPONSIBILITY FOR ALL OTH PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTH DOCUMENTS OR INSTRUMENT RELATING TO OR INTENDED TO USED FOR ANY PART OF PART	HER CARE PRACTITIONER SERVICES O BE	Location HARRY S. TRUMAN VAMC Date Checked Drawn Appro	Drawing Number  PL502.2	Managem
1 01/14/2015 // lo. Date	Amendment #4 Revisions				62234	168 N MERAMEC, SUITE 400   ST. LOUIS, MISSOURI 63105 TEL 314 725 2927   FAX 314 725 2928   CHRISTNERINC.COM		08/22/14 CKF JGM	Dwg. 146 of 296	Departn Veteran

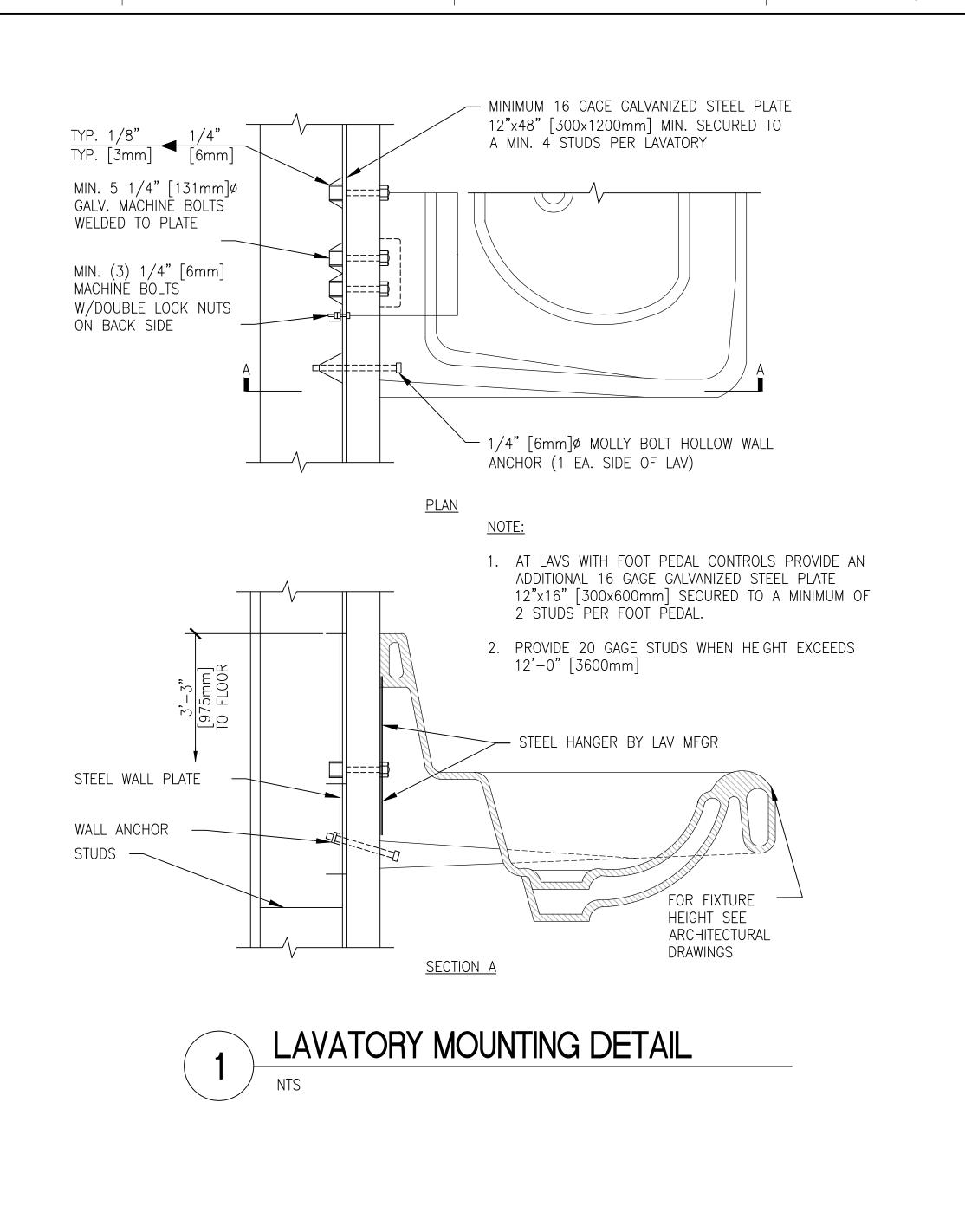


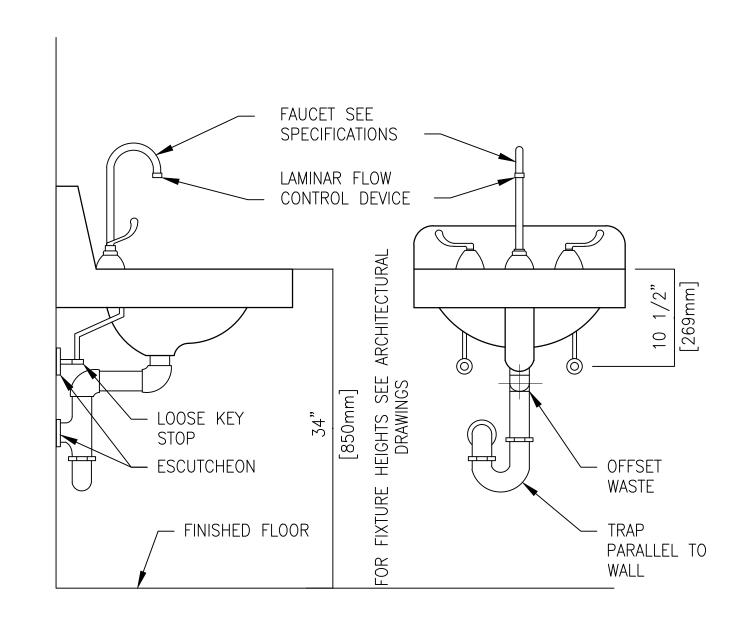
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1 01/14/2015 Amendment #4		KJWW ENGINEERING CONSULTANTS - ST. LOUIS #15 SUNNEN DRIVE, SUITE 104	KWAME BUILDING GROUP 1204 WASHINGTON AVE. SUITE 200	ACOUSTICONTROL LLC 1709 WASHINGTON AVENUE, LOFT 300	EVIRONMENTAL CONSULTANTS, LLC #6 MEADOW HEIGHTS PROFESSIONAL PARK DR. COLLINSVILLE, IL	ARCHITECTS   DESIGNERS   PLANNERS   LANDSCAPE ARCHITECTS	PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE	DIRECTOR OF SPECIALTY CONTROL PRACTITIONER ENGINEER	PATIENT	ASSOCIATE DIRECTOR MEDICAL CENTER DIRECTOR	11		 -	Manageme
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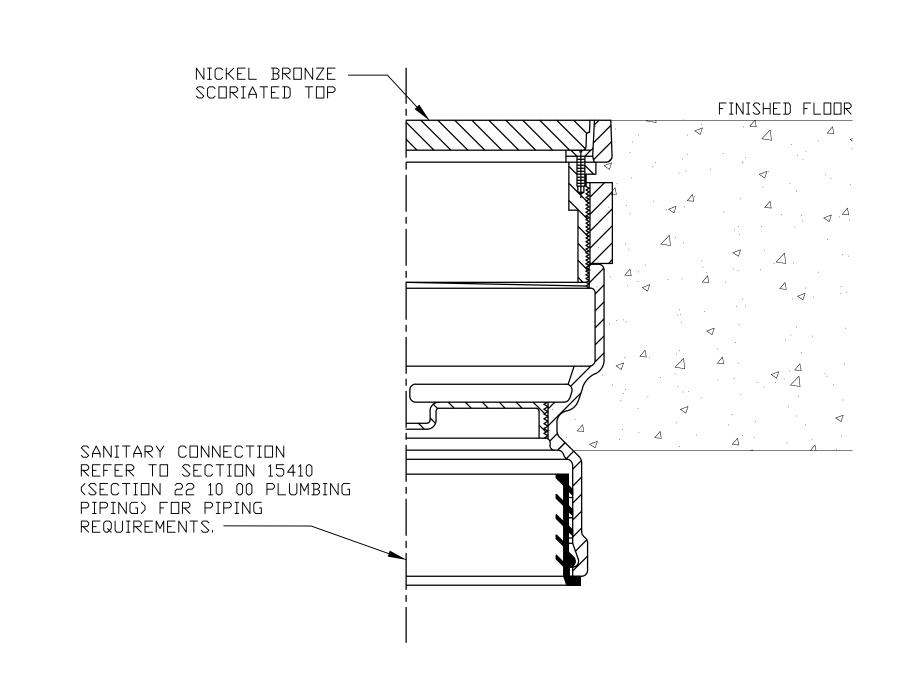
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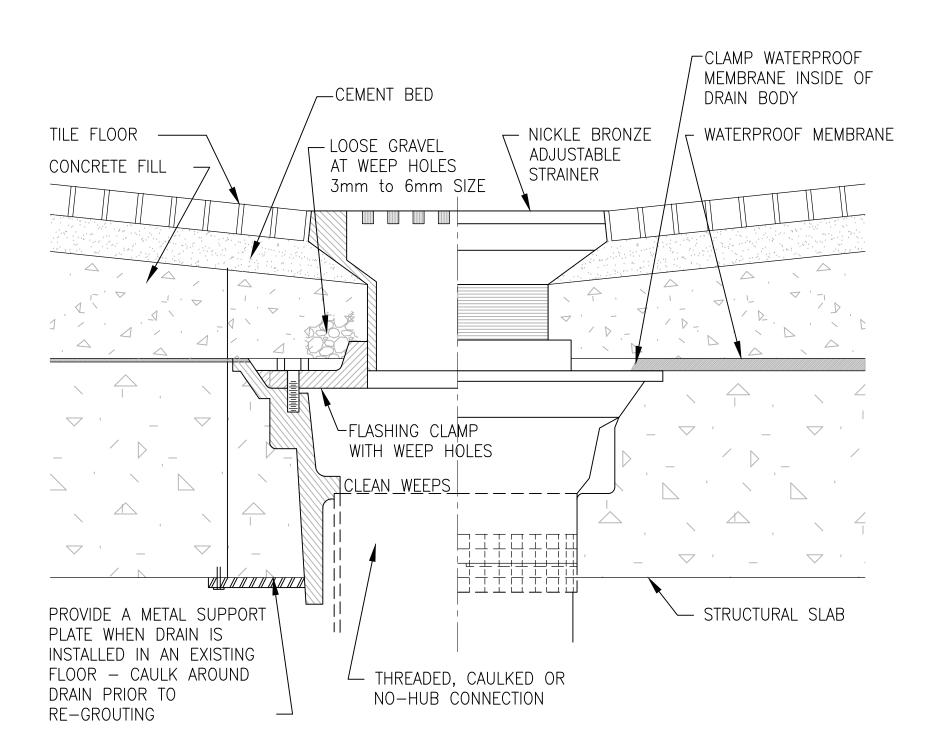




TYPICAL WHEELCHAIR LAVATORY DETAIL



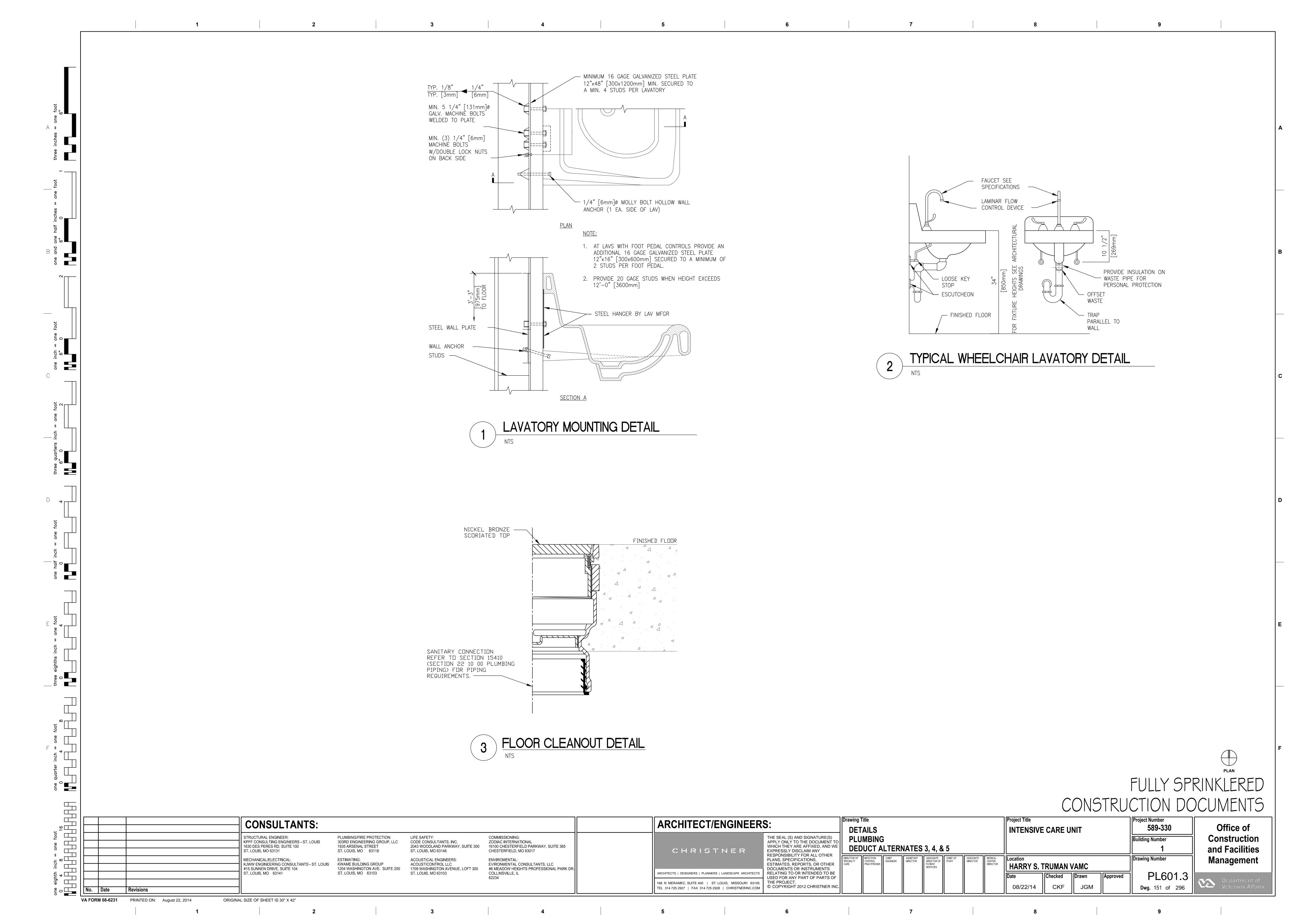
FLOOR CLEANOUT DETAIL



TYPE "C" FLOOR DRAIN DETAIL

FULLY SPRINKLERED CONSTRUCTION DOCLIMENTS

	CONSULTANTS:				ARCHITECT/ENGINEERS	<b>S</b> :	Drawing Title  DETAILS		Project Title INTENSIVE CARE UNIT	Project Number 589-330	Offic
	STRUCTURAL ENGINEER: KPFF CONSULTING ENGINEERS - ST. LOUIS 1630 DES PERES RD, SUITE 100 ST. LOUIS, MO 63131	PLUMBING/FIRE PROTECTION: 303RD ENGINEERING GROUP, LLC 1935 ARSENAL STREET ST. LOUIS, MO 63118	LIFE SAFETY: CODE CONSULTANTS, INC. 2043 WOODLAND PARKWAY, SUITE 300 ST. LOUIS, MO 63146	COMMISSIONING: ZODIAC INTERNATIONAL 16100 CHESTERFIELD PARKWAY, SUITE 365 CHESTERFIELD, MO 63017	CHRISTNER	THE SEAL (S) AND SIGNATURE(S) APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND WE EXPRESSLY DISCLAIM ANY	PLUMBING BASE BID, DEDUCT ALTERNA	TES 1 & 2		Building Number  1	Cons and F
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Pate Revisions				62234	168 N MERAMEC, SUITE 400   ST. LOUIS, MISSOURI 63105 TEL 314 725 2927   FAX 314 725 2928   CHRISTNERINC.COM	USED FOR ANY PART OF PARTS OF THE PROJECT. © COPYRIGHT 2012 CHRISTNER INC.			Date Checked Drawn Ap  08/22/14 CKF JGM	PL601.0  Dwg. 150 of 296	



<u>ELEVATION</u>

SUPPORT/ANCHOR FOR PIPE RISERS

### GENERAL MEDICAL GAS NOTES

1) THE LOCATIONS OF ALL ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL, ELECTRICAL, AND SITE COMPONENTS ARE SHOWN IN ACCORDANCE WITH INFORMATION ON HAND WHEN THESE DRAWINGS WERE PREPARED. THE CONTRACTOR SHALL SATISFY HIMSELF BY A PERSONAL EXAMINATION OF THE SITE AS TO ALL LOCAL CONDITIONS AFFECTING THE PERFORMANCE OF THE CONTRACT, INCLUDING, BUT NOT LIMITED TO THE LOCATION OF ANY CONCEALED OR EXPOSED UTILITY (SEWER, GAS, WATER, ELECTRIC, ETC.), STRUCTURAL/ARCHITECTURAL COMPONENTS, SITE CONDITIONS, ETC

2) ALL MATERIALS AND WORK SHALL BE IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS, ORDINANCES, RULES, AND REGULATIONS OF THE DEPARTMENT OF VETERANS AFFAIRS, AND NFPA 99. NOTHING IN THE PLANS OR SPECIFICATIONS SHALL BE CONSTRUED AS REQUIRING OR PERMITTING WORK IN VIOLATION OF SUCH CODES. WHERE WORK IS SHOWN ON THE PLANS WITHOUT DETAILED SPECIFICATIONS, ALL WORK SHALL BE DONE WITH MATERIALS AND METHODS ACCEPTED AS GOOD PRACTICE BY THE CONSTRUCTION INDUSTRY IN ACCORDANCE WITH SUCH CODES.

3) THE LOCATIONS OF MEDICAL GAS SYSTEM COMPONENTS ON THE DRAWINGS ARE APPROXIMATE AND DIAGRAMMATIC IN NATURE. COMPLETE INSTALLATION DETAILS ARE NOT SHOWN. THE CONTRACTOR SHALL MAKE ADJUSTMENTS AS NECESSARY TO ASSURE PROPER INSTALLATION. DO NOT DETERMINE THE FINAL LOCATION OF ANY COMPONENT BY SCALING THE DRAWINGS. THE FINAL LOCATIONS OF PLUMBING FIXTURES SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS.

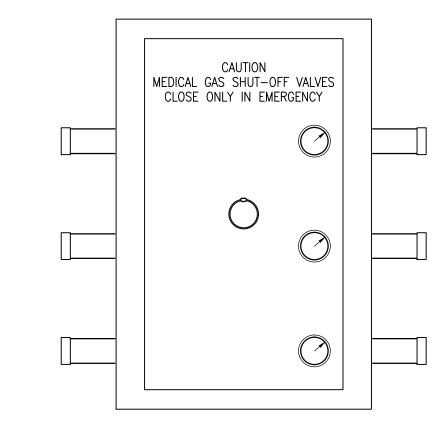
4) CONTRACTOR SHALL COORDINATE PIPE LOCATIONS SO AS TO AVOID INTERFERENCE WITH ELECTRICAL, ARCHITECTURAL, HVAC, FIRE PROTECTION, AND STRUCTURAL COMPONENTS.

5) CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING, PATCHING, AND FLASHING NECESSARY TO COMPLETE THE WORK. PRIOR TO EXCAVATION OR MAKING ANY PENETRATIONS OR ALTERATIONS TO THE BUILDING ENVELOPE OR INTERIOR PARTITIONS/STRUCTURE, OBTAIN APPROVAL FROM THE BUILDING OWNER AND

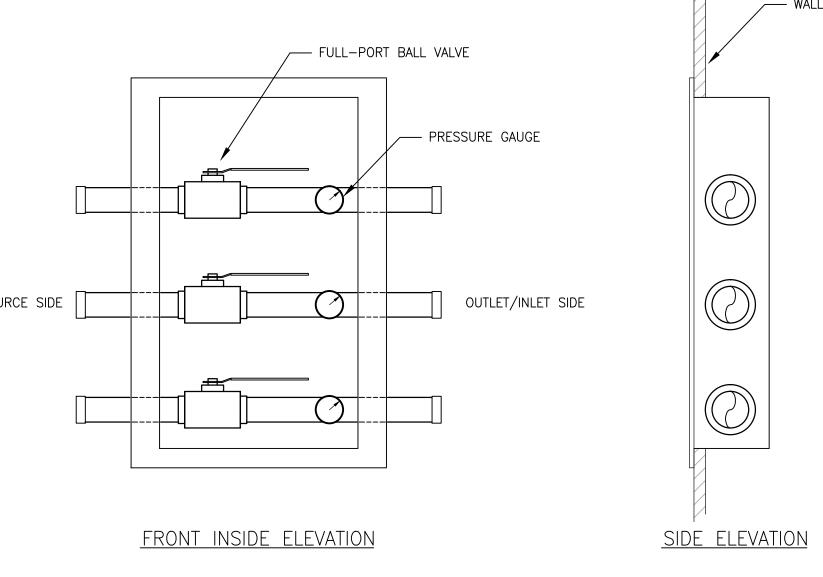
6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING MEDICAL GAS OUTLETS, FITTINGS, AND EQUIPMENT IN ACCORDANCE WITH THE PERFORMANCE AND QUALITY CHARACTERISTICS SPECIFIED. THESE CRITERIA TAKE PRECEDENCE OVER MANUFACTURER'S MODEL NUMBERS, WHICH ARE GIVEN FOR REFERENCE ONLY.

7) PITCH ALL PIPING FOR DRAINAGE TO COMPRESSOR OR VACUUM PUMP EQUIPMENT.

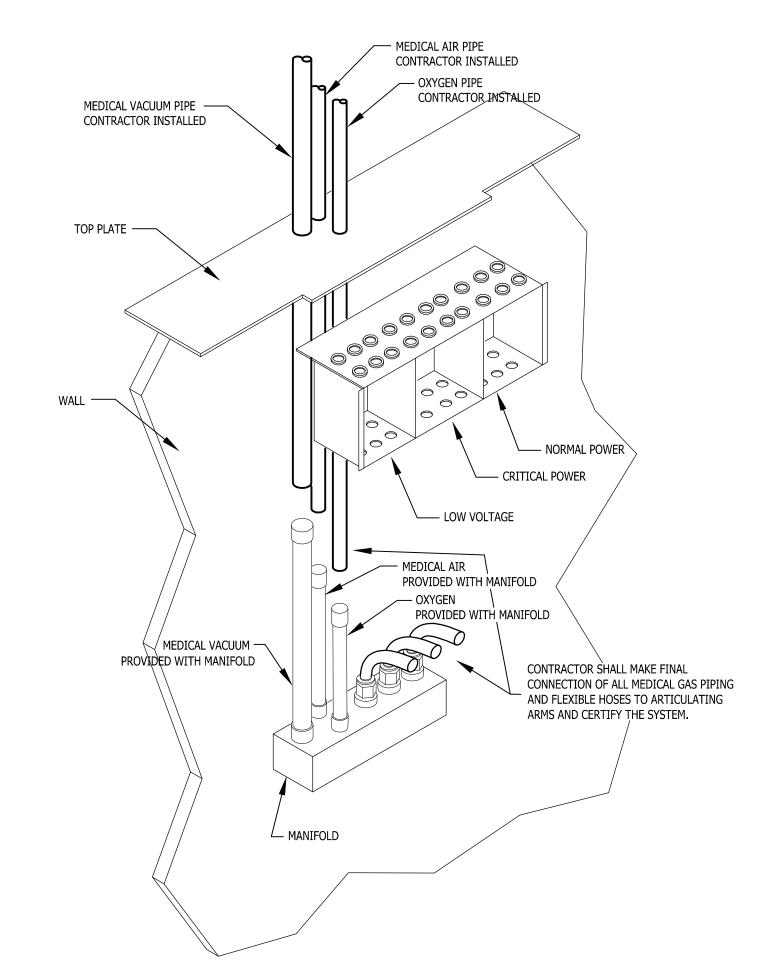
8) SEE SPECIFICATIONS FOR TYPE OF MEDICAL GAS / VACUUM OUTLETS REQUIRED FOR MGO-1 (DENTAL), MGO-2, MGO-2a, MGO-5, MGO-6 (WALL), AND MGO-3, MGO-4 (CEILING). COORDINATE WITH COTR FOR FINAL SELECTION TO MATCH MEDICAL CENTER STANDARDS.



FRONT ELEVATION WITH SNAP-OUT DOOR



ZONE VALVE BOX NOTE: DETAIL SHOWS ZONE VALVE BOX FOR THREE SERVICES. SEE DRAWINGS FOR LOCATION AND CONTENT OF EACH ZONE



MEDICAL GAS MANIFOLD DETAIL (FOR PATIENT ROOM BOOM)

## AREA ALARM PANEL

DESCRIPTION: PANEL IS MODULAR IN DESIGN, DIGITAL TYPE, USED WITH LINE PRESSURE AND LINE VACUUM SENSORS. THE MEDICAL GAS LINES TO BE MONITORED SHALL INCLUDE THE FOLLOWING:

MEDICAL VACUUM [1] MEDICAL AIR

THE MODULE FOR MONITORING EACH GAS OR VACUUM LINE SHALL INCLUDE THE FOLLOWING: AN AUDIBLE WARNING DEVICE THAT WILL SOUND IF THE PRESSURE IN A MEDICAL GAS LINE IS 20% ABOVE OR BELOW ITS NORMAL SETTING AND AN "ABNORMAL" RED LIGHT THAT WILL COME ON. A SWITCH SHALL BE PROVIDED TO SILENCE THE AUDIBLE WARNING DEVICE. "ABNOMARL" RED LIGHT WILL REMAIN LIT UNTIL CONDITION HAS BEEN CORRECTED. A BUILT-IN LCD (LIQUD CRYSTAL DISPLAY) WILL CONTINUOUSLY INDICATE THE PRESSURE OR VACUUM. A TEST SWITCH SHALL BE SUPPLIED TO TEST INTERNAL CIRCUITS, LIGHTS AND WARNING DEVICES. ALL POWER WIRING TO THE ALARM PANEL AND SENSORS TO BE WIRED BY THE ELECTRICAL CONTRACTOR. ALL ALARM WIRING TO THE PANEL IS THIS CONTRACTORS RESPONSIBILITY. ALL WIRING TO COMPLY WITH THE RECOMMENDATION OF THE ALARM PANEL MANUFACTURER AND SHALL BE RUN IN CONDUIT. ALL WIRING SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE. THIS CONTRACOTR SHALL PROVIDE WIRING DIAGRAMS AND REQUIREMENTS TO THE ELECTRICAL CONTRACTOR.

REFER TO PLANS FOR EXACT QUANTITY.

# ZONE VALVE BOX

## <u>ZVB-3.1</u>

DESCRIPTION: BOX SHALL BE EXTRUDED ALUMINUM, IDENTIFICATION COVER, AND SHIELD. THE FINISH FRAME SHALL MOUNT TO BOX WITH CONCEALED MOUNTING SCREWS. THE ASSEMBLY DOOR SHALL HAVE A LABEL THAT READS:

MEDICAL GAS SHUT-OFF VALVES

CLOSE ONLY IN EMERGENCY

PLACEMENT OF VALVE HANDLE WITHIN THE BOX SHALL BE SUCH THAT THE EMERGENCY PLASTIC PULL-OUT WINDOW CANNOT BE REPLACED WITH THE VALVE HANDLE IN THE "OFF" POSITION.

FACTORY INSTALLED TUBING SHALL EXTEND AT LEAST 3" BEYOND THE BOX, AND THE VALVE BODY SHALL BE SWUNG OUT OF LINE OF HEAT TRANSFER, PERMITTING JOINT TO BE BRAZED WITHOUT OBSTRUCTION OR HEAT DAMAGE TO VALVE. OPEN ENDS OF TUBING SHALL BE CAPPED TO AVOID PRE-INSTALLATION CONTAMINATION.

A 1 1/2" DIAMETER LINE PRESSURE / VACUUM GAUGE SHALL BE SUPPLIED AND INSTALLED DOWNSTREAM OF SHUT-OFF VALVE FOR PRESSURE GAS SYSTEMS AND UPSTREAM OF VACUUM SHUT-OFF VALVE.

ALL VALVES SHALL BE PREPARED FOR OXYGEN SERVICE AND SHALL CONFORM TO NFPA #99. ALL VALVES SHALL BE OF BALL-TYPE, WITH DOUBLE O-RING STEM SEAL AND TEFLON BALL SEATING, MINIMUM WORKING PRESSURE OF 400 PSIG, ACTUATED FROM FULL "ON" TO FULL "OFF" BY 90 DEGREE TURN OF VALVE HANDLE. IDENTIFY SERVICE ON EACH VALVE HANDLE.

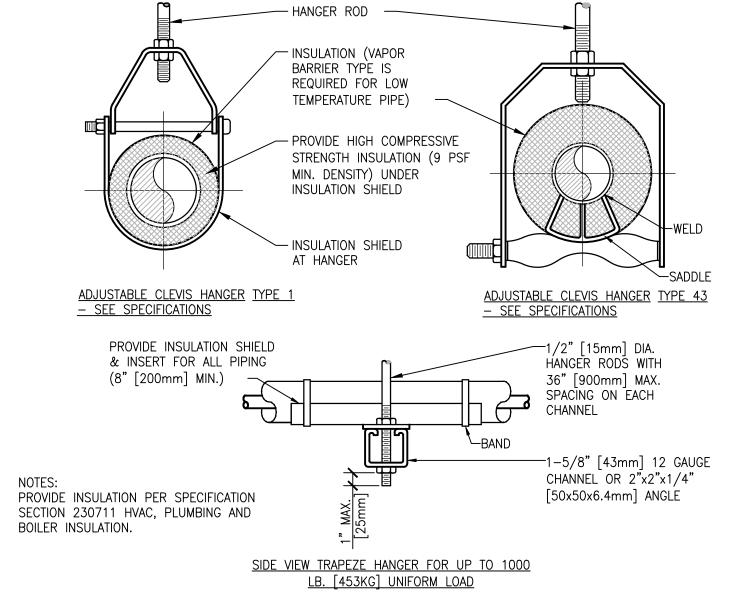
VALVES SHALL BE THE SAME SIZE AS THE PIPING ENTERING THE VALVE.

VALVE BOX SHALL CONTAIN THE FOLLOWING VALVES:

[1] OXYGEN

MEDICAL AIR [1] MEDICAL VACUUM

REFER TO PLANS FOR EXACT QUANTITY AND PIPE SIZES.



					MAX	IMUM I	PIPE/TU	BING S	UPPOR	I SPACI	NG								
NOM. SIZE	. IN. [mm]	THRU 3/4 THRU [20]	1 [25]	1 1/4 [32]	1 1/2 [40]	2 [50]	2 1/2 [65]	3 [75]	4 [100]	5 [125]	6 [150]	8 [200]	10 [250]	12 [300]	14 [350]	16 [400]	18 [450]	20 [500]	24 [600]
PIPE	[2100] [2100] [2100] [2100] [3400] [3400] [3400] [4100] [4900] [5200] [5800] [6700] [7000] [7000] [8200] [8500] [9100] [9100]															32 [9600]			
TUBING	FT. [mm]	5 FT [1500]	6 [1800]	7 [2100]	8 [2400]	8 [2400]	9 [2700]	10 [3000]	12 [3700]	13 [4000]	14 [4100]	16 [4900]	1 1	1 1	_ _	-	1 1	_ _	_ _
NOTE:	FOR TR	APEZE HANGE	R TAKE	SPACII	NG OF	SMALLE	ST SIZE	ON T	RAPEZE										

ORIGINAL SIZE OF SHEET IS 30" X 42"



PRINTED ON: August 22, 2014

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**VA FORM 08-6231** 

# FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Office of

Construction

and Facilities

Management

**Drawing Title CONSULTANTS:** ARCHITECT/ENGINEERS: 589-330 **DETAILS** INTENSIVE CARE UNIT THE SEAL (S) AND SIGNATURE(S)
APPLY ONLY TO THE DOCUMENT TO STRUCTURAL ENGINEER: PLUMBING/FIRE PROTECTION: LIFE SAFETY: COMMISSIONING: **MEDICAL GAS Building Number** KPFF CONSULTING ENGINEERS - ST. LOUIS 303RD ENGINEERING GROUP, LLC CODE CONSULTANTS, INC. ZODIAC INTERNATIONAL 16100 CHESTERFIELD PARKWAY, SUITE 365 WHICH THEY ARE AFFIXED, AND WE 2043 WOODLAND PARKWAY, SUITE 300 1630 DES PERES RD, SUITE 100 1935 ARSENAL STREET BASE BID, DEDUCT ALTERNATES 1, 2, 3, 4, & 5 CHRISTNER ST. LOUIS, MO 63131 ST. LOUIS, MO 63118 ST. LOUIS, MO 63146 CHESTERFIELD, MO 63017 EXPRESSLY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER **Drawing Number** MECHANICAL/ELECTRICAL: **ESTIMATING**: ACOUSTICAL ENGINEERS: ENVIROMENTAL: PLANS, SPECIFICATIONS, HARRY S. TRUMAN VAMC ESTIMATES, REPORTS, OR OTHER KJWW ENGINEERING CONSULTANTS - ST. LOUIS KWAME BUILDING GROUP ACOUSTICONTROL LLC EVIRONMENTAL CONSULTANTS, LLC #15 SUNNEN DRIVE, SUITE 104 1204 WASHINGTON AVE. SUITE 200 1709 WASHINGTON AVENUE, LOFT 300 #6 MEADOW HEIGHTS PROFESSIONAL PARK DR. DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE ST. LOUIS, MO 63141 ST. LOUIS, MO 63103 COLLINSVILLE, IL ST. LOUIS, MO 63103 RCHITECTS | DESIGNERS | PLANNERS | LANDSCAPE ARCHITECT PL602.0 Drawn Approved USED FOR ANY PART OF PARTS OF THE PROJECT. 168 N MERAMEC, SUITE 400 | ST. LOUIS, MISSOURI 63105 TEL 314 725 2927 | FAX 314 725 2928 | CHRISTNERINC.COM © COPYRIGHT 2012 CHRISTNER INC 08/22/14 CKF JGM **Dwg.** 152 of 296

### CONDUIT CAPACITY CROSS-SECTIONAL AREA (SQUARE INCHES) 0.722 1.049 1.063 0.936 1.029 1.105 1 1/4 1.380 1.255 1.448 1.394 1.360 1.610 1.476 1.590 2.067 2.150 2.083 1.913 2 1/2 2.731 2.557 3.356 3.176 3.090 3 1/2 3.834 3.671 3.570 3.521 3.326 4.334 4.166 4.050 3.786

- FOR ONE (1) CONDUCTOR OR CABLE IN A RACEWAY, THE CROSS-SECTIONAL AREA OF THE CONDUCTOR OR CABLE SHALL NOT EXCEED FIFTY-THREE PERCENT (53%) OF THE CORRESPONDING RACEWAY'S NATIONAL ELECTRICAL CODE (NEC), TABLE 1
- CROSS-SECTIONAL AREA. FOR TWO (2) CONDUCTORS OR CABLES IN A RACEWAY, THE COMBINED CROSS-SECTIONAL AREAS OF THE CONDUCTORS OR CABLES SHALL NOT EXCEED THIRTY-ONE PERCENT (31%) OF THE CORRESPONDING RACEWAY'S
- NEC, TABLE 1 CROSS-SECTIONAL AREA. FOR MORE THAN TWO (2) CONDUCTORS OR CABLES IN A RACEWAY, THE COMBINED CROSS-SECTIONAL AREAS OF ALL CONDUCTORS OR CABLES
  - SHALL NOT EXCEED FORTY PERCENT (40%) OF THE CORRESPONDING RACEWAY'S NEC, TABLE 1 CROSS-SECTIONAL AREA. FOR SURFACE METALLIC RACEWAY, FOLLOW THE MANUFACTURER'S RECOMMENDED FILL CALCULATIONS.
- WIRE CODE (FPL, TWISTED) INCHES) 0.041 0.054 0.026 0.039 0.044 0.063 WET LOCATION/ SHIELDED

FIRE ALARM CABLING DIMENSIONS

(SQUARE

0.075

0.084

10/Z	0.000	
CABLE COMBINATIONS (NUMBER OF CABLES) x (FORMULA WIRE CODE)	AF	OTAL REA (I CHES
(1 X A) + (2 X F) =		0.

CABLE TYPE IN DESIGN

WET LOCATION/ UNSHIELDED

- VERIFY THE TOTAL CABLE AREA IS LESS THAN THE REQUIRED FILL AREA OF THE APPROPRIATE CONDUIT.
- PERMISSIBLE AREA AND CONDUIT CAPACITY CALCULATIONS ARE BASED ON THE NATIONAL ELECTRIC CODE (NEC). SPECIFIC CABLING AREAS ARE BASED ON WEST PENN WIRE SPECIFICATIONS. THE ACTUAL CABLING PROVIDED MUST BE USED BY THE FAC TO PERFORM CAPACITY CALCULATIONS, AND PROPER CONDUIT SIZES SHALL BE USED PER THE NEC AND ANY LOCAL CODES.

### KEYED NOTES

- (1) COORDINATE CONNECTIONS TO DEDICATED 120 VAC POWER CIRCUITS (CONNECTED TO THE EMERGENCY GENERATOR). LABEL THE CIRCUITS "FIRE ALARM CIRCUIT(S)." IDENTIFY THE LOCATION OF THE CIRCUIT DISCONNECT AT THE ASSOCIATED AUXILIARY POWER SUPPLY (APS). COORDINATE EXACT MOUNTING LOCATIONS OF POWER SUPPLIES WITH THE GENERAL AND ELECTRICAL CONTRACTORS PRIOR TO INSTALLATION.
- 2 PROVIDE A REMOTE LCD ANNUNCIATOR. COORDINATE EXACT MOUNTING LOCATION WITH THE GENERAL CONTRACTOR, SENIOR RESIDENT ENGINEER (SRE),
- PROVIDE ELECTRONIC MONITORING OF ALL SPRINKLER WATERFLOW AND TAMPER SWITCHES (BY FIRE SPRINKLER CONTRACTOR). COORDINATE EXACT QUANTITIES AND INTERFACE CONNECTIONS WITH THE SPRINKLER CONTRACTOR.

AND AUTHORITY HAVING JURISDICTION (AHJ) PRIOR TO INSTALLATION.

- (4) PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS THROUGHOUT THE AFFECTED NOTIFICATION ZONE. PROVIDE ALL REQUIRED SYNCHRONIZATION MODULES. PROVIDE MULTI-SYNC MODE SLAVE CONNECTIONS
- (5) MOUNT SMOKE DETECTOR ON THE BOTTOM OF THE CEILING/DECK (NOT ON THE BOTTOM OF STRUCTURAL MEMBERS) AND LOCATED MORE THAN THREE (3) FEET FROM AIR SUPPLY DIFFUSERS, AS INDICATED IN NFPA 72.
- (6) PROVIDE ADDRESSABLE DUCT DETECTION IN THE SUPPLY SIDE OF ALL AIR HANDLING UNITS (AHU) WITH A DESIGN CAPACITY GREATER THAN 2,000 CFM. PROVIDE A SEPARATE ADDRESSABLE CONTROL MODULE (ACM) FOR SHUTDOWN OF ASSOCIATED AHU. LOCATE ACM AT AN ACCESSIBLE LOCATION WITHIN THREE (3) FEET OF THE ASSOCIATED AHU MOTOR CONTROLLER OR CONTROL CIRCUIT. PROVIDE ANY REQUIRED POWER CONNECTIONS AND SUPERVISION FOR DUCT DETECTOR AND ACM. COORDINATE ALL EQUIPMENT INSTALLATION AND INTERFACE CONNECTIONS WITH THE ELECTRICAL, MECHANICAL, AND TEMPERATURE CONTROLS CONTRACTORS. COORDINATE INSTALLATION OF ANY REQUIRED ACCESS PANELS. PROVIDE AHU SHUTDOWN PER EACH INDIVIDUAL
- PROVIDE REMOTE TEST STATIONS/ANNUNCIATORS FOR ALL DUCT DETECTORS AND CONCEALED SMOKE DETECTORS. PROVIDE ANY REQUIRED POWER CABLING CONNECTIONS TO DETECTORS AND REMOTE TEST STATIONS/ANNUNCIATORS. MOUNT THE REMOTE TEST STATIONS/ANNUNCIATORS ON AN ADJACENT COLUMN OR WALL, AND AT AN ACCESSIBLE LOCATION THAT DOES NOT CONFLICT WITH INTERIOR FEATURES. COORDINATE EXACT MOUNTING LOCATIONS WITH THE GENERAL CONTRACTOR, SRE, AND THE AHJ PRIOR TO INSTALLATION.
- (8) ALL CONDUIT AND BACKBOXES SHALL BE RECESSED IN WALLS. EXPOSED CONDUIT AND BACKBOXES ARE NOT ACCEPTABLE.
- (9) COORDINATE THE EXACT LOCATION OF WIRING RISER WITH THE GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION.
- (10) PROVIDE INTERFACE SIGNALS TO UNLOCK ALL EGRESS DOORS AND STAIRWELL DOORS IN ZONE OF ALARM. PROVIDE INTERFACE CONNECTIONS TO THE AFFECTED DOORS. PROVIDE ANY REQUIRED ACM, INTERMEDIATE RELAYS, AND INTERFACE PANELS. LOCATE ACM WITHIN THREE (3) FEET OF THE ASSOCIATED CONTROLS. COORDINATE INTERFACE CONNECTIONS WITH THE ASSOCIATED
- 11) PROVIDE INTERFACE SIGNALS TO MUTE ALL BACKGROUND MUSIC/SOUND SYSTEMS/PAGING SYSTEMS IN ZONE OF ALARM. PROVIDE INTERFACE CONNECTIONS TO THE LOCAL ZONE CONTROL SYSTEM. PROVIDE ANY REQUIRED ACM, INTERMEDIATE RELAYS, AND INTERFACE PANELS. LOCATE ACM WITHIN THREE (3) FEET OF THE ASSOCIATED CONTROLS. COORDINATE INTERFACE CONNECTIONS WITH THE ASSOCIATED CONTRACTOR.
- (12) MOUNT SMOKE DETECTORS ON THE CEILING/DECK, ON THE CENTERLINE OF THE DOORWAY, NO MORE THAN FIVE (5) FEET FROM THE DOORWAY, AND AS INDICATED IN NFPA 72.
- (3) DOOR RELEASE SHALL OPERATE ON LOSS OF POWER TO MAGNETIC DOOR HOLDER OR ACM AND SHALL BE SELF-MONITORING FOR INTEGRITY. LOCATE ACM AT AN ACCESSIBLE LOCATION WITHIN THREE (3) FEET OF THE ASSOCIATED CONTROLS OR CONTROL CIRCUIT. PROVIDE WIRING CONNECTIONS FROM ACM TO MAGNETIC DOOR HOLDER CONTROLS, AND COORDINATE PROPER DOOR RELEASE OPERATION.
- PROVIDE A MANUAL PULL STATION WITHIN FIVE (5) FEET OF THE EXIT DOORWAY OPENING, AS INDICATED IN NFPA 72.
- (5) EXTEND SIGNALING LINE CIRCUITS AND SPEAKER CIRCUITS TO EXISTING SIEMENS MXLVR PANEL LOCATED ON THE FIRST FLOOR WITHIN THE OPERATING SUITE ADDITION NEAR COLUMN V & 10.
- (B) EXISTING SMOKE DETECTOR PROVIDED AND INSTALLED UNDER A PREVIOUS PROJECT. EXISTING SMOKE DETECTOR SHALL REMAIN AND BE REUSED AS CURRENTLY CONFIGURED. PROTECT IN PLACE AT ALL TIMES.
- (17) EXISTING MANUAL PULL STATION PROVIDED AND INSTALLED UNDER A PREVIOUS PROJECT. EXISTING MANUAL PULL STATION SHALL REMAIN AND BE REUSED AS CURRENTLY CONFIGURED. PROTECT IN PLACE AT ALL TIMES.
- (18) EXISTING NOTIFICATION APPLIANCE PROVIDED AND INSTALLED UNDER A PREVIOUS PROJECT. EXISTING NOTIFICATION APPLIANCE SHALL REMAIN AND BE REUSED AS CURRENTLY CONFIGURED. PROTECT IN PLACE AT ALL TIMES.
- (18) RELOCATE EXISTING FIRE ALARM EQUIPMENT TO NEW WALL OR CEILING AS A PART OF THE INTERIOR FIT-OUT. EXISTING FIRE ALARM EQUIPMENT SHALL REMAIN OPERATIONAL AT ALL TIMES DURING CONSTRUCTION.

### INSTALLATION NOTES

- 1. SEE WIRING LEGEND FOR CABLE TYPES AND SIZES.
- ALL WORK SHALL BE IN ACCORDANCE WITH NFPA STANDARDS AND ALL LOCAL ADOPTED CODES.
- CABLE ROUTING SHOWN ON DRAWINGS IS FOR INTENT. EXACT ROUTING TO BE COORDINATED WITH OTHER TRADES IN THE FIELD. SEE SPECIFICATIONS AND DRAWING NOTES FOR ACCEPTABLE INSTALLATION METHODS.
- 4. PROVIDE ALL REQUIRED CONDUIT, BACKBOXES, AND FITTINGS FOR THE FIRE ALARM SYSTEM CABLING. THE FIRE ALARM CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR TO DETERMINE THE EXTENT OF ALL FIRE
- ALARM CONDUIT AND BACKBOX REQUIREMENTS. ALL CABLE RUNS SHALL BE NEATLY BUNDLED, WRAPPED TIGHT AND PROPERLY SECURED. ANY CABLING NOT INSTALLED IN A NEAT AND PROFESSIONAL MANNER
- CONTRACTOR RUNNING CABLING MUST MARK BOTH ENDS OF CABLING, PROVIDE A WIRE LEGEND FOR ALL LOCATIONS, AND PROVIDE A CONTINUITY TEST LOG FOR EACH CABLE.
- ALL JUNCTION BOXES AND ADDRESSABLE MODULES SHALL BE INSTALLED TIGHT TO STRUCTURE OR AT THE BOTTOM OF STRUCTURE JOISTS. ALL JUNCTION BOXES AND CABLE SPLICES SHALL BE ACCESSIBLE FOR SERVICE. PROVIDE ANY
- 8. ALL FIRE ALARM CABLING SHALL BE INSTALLED IN CONDUIT.

REQUIRED ACCESS PANELS.

CABLE SHALL BE USED.

SHALL BE PULLED OUT AND RE-RUN BY INSTALLER.

- 9. ALL FIRE ALARM CABLING RISERS SHALL BE INSTALLED IN METALLIC CONDUIT.
- 10. ALL FIRE ALARM CONDUIT IN FINISHED AREAS SHALL BE CONCEALED.
- GENERAL CONTRACTOR AND ALL OTHER TRADES PRIOR TO INSTALLATION. 12. ALL CABLING, CONDUIT, AND BACKBOXES SHALL BE PROPERLY SUPPORTED AND SEISMICALLY BRACED, AS REQUIRED BY ALL APPLICABLE CODES AND THE LOCAL

11. COORDINATE DRILLING OF ANY HOLES (I.E. COLUMN PENETRATIONS) WITH THE

- 13. FIRE ALARM CONDUCTORS SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE. SHOULD MANUFACTURER OF FIRE ALARM EQUIPMENT REQUIRE DIFFERENT TYPE OR SIZE OF CABLE THAN HEREIN SPECIFIED, THE LARGER OR MORE STRINGENT TYPE OF
- 14. CONDUIT SHALL ENTER INTO THE FIRE ALARM PANELS ONLY AS APPROVED BY THE EQUIPMENT MANUFACTURER.
- 15. ALL FIRE ALARM JUNCTION BOXES SHALL BE PAINTED RED.
- 16. ADDRESSES SHOWN FOR THE ADDRESSABLE DEVICES ARE FOR INFORMATIONAL PURPOSES ONLY. ACTUAL DEVICE ADDRESSES FROM THE EXISTING FIRE ALARM SYSTEM SHALL BE FIELD VERIFIED. ACTUAL DEVICE ADDRESSES AND ANY ASSOCIATED PROGRAMMING OF THE EXISTING FIRE ALARM SYSTEM SHALL BE BY THE FIRE ALARM CONTRACTOR.

- WITHIN NEW INTENSIVE CARE UNIT (ICU) RELOCATION, AS INDICATED ON THE DRAWINGS. FOR INFORMATION, PLEASE CONTACT:
- CRAIG EDMISTER SR. SERVICE SALES REPRESENTATIVE SIEMENS BUILDING TECHNOLOGIES, INC.
- 2320 BALL DRIVE ST. LOUIS, MO 63146
- PH: 314-817-1101 FX: 886-436-9140
- CL: 314-260-6175
- PROVIDE MONITORING CONNECTIONS TO SPRINKLER WATERFLOW SWITCHES AND TAMPER SWITCHES (SWITCHES ARE BY FIRE SPRINKLER CONTRACTOR). PROVIDE ALL CABLING TO SWITCHES, FINAL WIRING CONNECTIONS AT SWITCHES, AND SUPERVISION OF ALL WIRING CONNECTIONS. COORDINATE ALL CONNECTIONS WITH THE SPRINKLER CONTRACTOR.
- PROVIDE DEDICATED 120 VAC CIRCUITS (CONNECTED TO THE EMERGENCY GENERATOR) TO THE APS. LABEL THE DEDICATED CIRCUITS "FIRE ALARM
- MECHANICAL OR ELECTRICAL CONTRACTORS). PROVIDE A SEPARATE CONNECTIONS AND EQUIPMENT INSTALLATION WITH THE ELECTRICAL,
- PROVIDE VOLTAGE DROP CALCULATIONS FOR ALL NOTIFICATION APPLIANCE
- SPEAKER NOTIFICATION SYSTEMS ARE DESIGNED USING 70.7 VRMS POWER BE 70.7 VRMS POWER LIMITED (INCLUDING ALL CIRCUITS, APPLIANCES, AND
- . THE SPEAKER AND VISUAL NOTIFICATION APPLIANCES SHALL BE RED IN COLOR IF WALL MOUNTED AND WHITE IN COLOR IF CEILING MOUNTED, AND SHALL BE LISTED
- WHERE POSSIBLE, PROVIDE FLUSH MOUNTING OF NOTIFICATION APPLIANCES. WHERE SURFACE-MOUNTED NOTIFICATION APPLIANCES ARE NECESSARY,
- DEVICES AND APPLIANCE LOCATIONS AS SHOWN ON THE FIRE ALARM PLANS ARE NOT DIMENSIONED FOR EXACT INSTALLATION. COORDINATE EXACT PLACEMENT OF ALL DEVICES AND APPLIANCES WITH THE ARCHITECTURAL PLANS AND
- 11. THE CEILING MOUNTED DEVICES AND APPLIANCES SHALL BE INSTALLED ALIGNED AESTHETICALLY WITH THE CEILING LIGHTING, SPRINKLERS, AND OTHER FIXTURES. COORDINATE INSTALLATION OF ALL CEILING MOUNTED FIRE ALARM DEVICES AND NOTIFICATION APPLIANCES WITH THE ARCHITECTURAL DRAWINGS AND ALL OTHER
- INFORMATION IS SHOWN FOR COORDINATION PURPOSES ONLY. REFER TO THE PROPER DRAWINGS FOR EXACT LOCATIONS, SIZES AND QUANTITIES OF OTHER TRADES' WORK.
- MOUNT SMOKE DETECTORS AT THE CEILING/DECK, AND NOT ON THE BOTTOM OF BEAMS OR JOISTS. LOCATE ALL SMOKE DETECTORS A MINIMUM OF THREE (3)
- 14. SMOKE DETECTOR HEADS SHALL NOT BE INSTALLED UNTIL AFTER THE
- 15. ALL THROUGH-PENETRATIONS OF FIRE-RATED WALLS AND FLOORS SHALL BE FIRE-STOPPED.
- 16. ALL JUNCTION BOXES SHALL BE ACCESSIBLE FOR SERVICE. PROVIDE ANY
- EXISTING FIRE ALARM SYSTEM DESIGN CRITERIA. ALL FIRE ALARM SYSTEM DEVICES AND APPLIANCES PROVIDED SHALL BE OF THE SAME MODEL AND MANUFACTURER AS THE EXISTING FIRE ALARM SYSTEM.

- ALL THROUGH-PENETRATIONS OF FIRE-RATED WALLS AND FLOORS SHALL BE FIRE-STOPPED.
- . FIRE-RATED GYPSUM BOARD WALLS CONSTRUCTED AS DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGNS IN THE U.L. FIRE RESISTANCE DIRECTORY (GENERALLY DOUBLE THICKNESS WALLBOARD) SHALL BE FIRE-STOPPED WITH U.L. SYSTEMS.
- ALL REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOORS OR WALLS, AND ALL U.L. CLASSIFIED CONCRETE BLOCK WALLS SHALL BE

### GENERAL NOTES

- PROVIDE ADDITIONAL HARDWARE, SOFTWARE, PROGRAMMING, AND TESTING AS NECESSARY TO MODIFY AND EXPAND THE EXISTING SIEMENS MXLV FIRE ALARM SYSTEM TO INCLUDE THE INITIATING DEVICES AND NOTIFICATION APPLIANCES

- E-MAIL: craig.edmister@siemens.com
- SYSTEM". PROVIDE 24 HOUR BATTERY BACKUP IN THE APS.
- PROVIDE DUCT DETECTORS, ASSEMBLY AND SAMPLING TUBES (INSTALLED BY ADDRESSABLE CONTROL MODULE (ACM) FOR SHUTDOWN OF ASSOCIATED AIR HANDLING UNIT (AHU). LOCATE ACM WITHIN THREE (3) FEET OF THE ASSOCIATED AHU MOTOR CONTROLLER. PROVIDE ANY REQUIRED POWER CONNECTIONS AND SUPERVISION FOR DUCT DETECTOR AND ACM. COORDINATE ALL SHUTDOWN MECHANICAL, AND TEMPERATURE CONTROLS CONTRACTORS.
- NOTIFICATION APPLIANCE CIRCUITS (NAC) HAVE BEEN DESIGNED FOR A MAXIMUM 2.0 AMPS, MAXIMUM 4.4 VDC DROP, AND MINIMUM OPERATING VOLTAGE OF 16 VDC.
- PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS THROUGHOUT THE AFFECTED ZONE. PROVIDE ALL REQUIRED SYNCHRONIZATION MODULES. PROVIDE MULTI-SYNC MODE SLAVE CONNECTIONS, AS REQUIRED, TO ALL AUXILIARY POWER SUPPLIES (APS).
- LIMITED CIRCUITS, APPLIANCES, AND AMPLIFIERS. THE SYSTEM PROVIDED SHALL
- FOR THE INTENDED APPLICATION.
- PROVIDE DECORATIVE BACKBOX SKIRT COVERING THE APPLIANCE BACKBOX.
- GENERAL CONTRACTOR PRIOR TO INSTALLATION.
- TRADES PRIOR TO INSTALLATION. 12. ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL BACKGROUND
- FEET FROM ANY MECHANICAL DIFFUSERS, AND AS REQUIRED BY NFPA 72.
- CONSTRUCTION CLEAN-UP OF ALL TRADES IS COMPLETE AND FINAL.
- REQUIRED ACCESS PANELS. 17. ALL NEW FIRE ALARM SYSTEM DEVICES AND APPLIANCES SHOWN ARE INTENDED TO BE AN EXTENSION OF THE EXISTING FIRE ALARM SYSTEM AND SHALL MEET ALL

## FIRESTOP NOTES

- FIRE-STOPPED WITH U.L. SYSTEMS.

- SYMBOL KEY FAAN FIRE ALARM ANNUNCIATOR (LCD)
- APS AUXILIARY POWER SUPPLY (WITH SYNCHRONIZATION MODULES)
- MANUAL PULL STATION (EXISTING TO REMAIN)
- MANUAL PULL STATION (INTELLIGENT)
- PHOTOELECTRIC SMOKE DETECTOR (EXISTING TO REMAIN)
- PHOTOELECTRIC SMOKE DETECTOR (INTELLIGENT)
- DUCT-TYPE PHOTOELECTRIC SMOKE DETECTOR (INTELLIGENT) (S = SUPPLY SIDE)
- FLOW SWITCH (BY FIRE SPRINKLER CONTRACTOR)
- TAMPER SWITCH (BY FIRE SPRINKLER CONTRACTOR)
- ADDRESSABLE INPUT MODULE
- ACM ADDRESSABLE CONTROL MODULE
- DH DOOR HOLDER (BY OTHERS) WALL MOUNTED VISUAL APPLIANCE
- XX (XX = CANDELA RATING) (RED COLOR) WALL MOUNTED SPEAKER/VISUAL APPLIANCE
- (XX = CANDELA RATING, XW = TRANSFORMER TAP) (RED COLOR) WALL MOUNTED SPEAKER APPLIANCE
- WALL MOUNTED STEAKER TAP) (RED COLOR) CEILING MOUNTED VISUAL APPLIANCE (XX = CANDELA RATING) (WHITE COLOR)
- (SV) CEILING MOUNTED SPEAKER/VISUAL APPLIANCE (EXISTING TO REMAIN)
- CEILING MOUNTED SPEAKERVISUAL APPLIANCE

  (XX = CANDELA RATING, XW = TRANSFORMER TAP) (WHITE COLOR)
- CEILING MOUNTED SPEAKER APPLIANCE (XW = TRANSFORMER TAP) (WHITE COLOR)
- FIRE ALARM CONDUCTORS IN CONDUIT (3/4" MINIMUM)

- JUNCTION BOX
- RT REMOTE TEST STATION (WHITE COLOR)
- ------ END OF LINE RESISTOR
- WIRING LEGEND
- CIRCUIT DESIGNATION: CONDUCTOR TYPE: D = 14/2 TP SHIELDED L = INITIATION DATA CIRCUIT E = 18/2 TP
- V = VISUAL NOTIFICATION CIRCUIT F = 14/2 TP SP = SPEAKER NOTIFICATION CIRCUIT G = AS REQ'D BY MANF. AN = ANNUNCIATOR CIRCUIT H = 14/2 WET LOCATION
- PW = LOW VOLTAGE POWER CIRCUIT J = 18/2 WET LOCATION RC = RELAY CONTROL CIRCUIT SU = SUPERVISORY ZONE CIRCUIT
  - N = NETWORK COMMUNICATION CIRCUIT AC = PANEL AUDIO COMMUNICATION CIRCUIT
- DC = PANEL DATA COMMUNICATION CIRCUIT RT = REMOTE TEST STATION POWER CIRCUIT SY = MULTIPLE SYNC CIRCUIT SPARE = SPARE CIRCUIT
- CONDUCTOR TYPE

CIRCUIT DESIGNATION

- CIRCUIT NUMBER

SHOULD MANUFACTURER OF FIRE ALARM EQUIPMENT REQUIRE A DIFFERENT TYPE OR

L = LOOP M = MODULE D = DEVICE

SIZE OF CABLE THAN HEREIN SPECIFIED. THE LARGER OR MORE STRINGENT TYPE OF

CABLE SHALL BE USED. ADDRESSING LEGEND

- MODULE/DEVICE NUMBER

- SIGNALING LINE CIRCUIT (SLC)

# FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

**Drawing Title Project Title Project Number ARCHITECT/ENGINEERS:** 589-330 Office of INTENSIVE CARE UNIT FIRE ALARM NOTES Construction LIFE SAFETY/FIRE PROTECTION: COMMISSIONING: THE SEAL (S) AND SIGNATURE(S) **Building Number** 303RD ENGINEERING GROUP, LLC APPLY ONLY TO THE DOCUMENT TO CODE CONSULTANTS, INC. ZODIAC INTERNATIONAL 2043 WOODLAND PARKWAY, SUITE 300 16100 CHESTERFIELD PARKWAY, SUITE 365 WHICH THEY ARE AFFIXED, AND WE 1935 ARSENAL STREET and Facilities CHRISTNER ST. LOUIS, MO 63118 ST. LOUIS, MO 63146 EXPRESSLY DISCLAIM ANY CHESTERFIELD, MO 63017 RESPONSIBILITY FOR ALL OTHER **Drawing Number** CHIEF ENGINEER Management ESTIMATING: PLANS, SPECIFICATIONS, **ACOUSTICAL ENGINEERS: ENVIROMENTAL:** HARRY S. TRUMAN VAMC EVIRONMENTAL CONSULTANTS, LLC ESTIMATES, REPORTS, OR OTHER KWAME BUILDING GROUP ACOUSTICONTROL LLC 1709 WASHINGTON AVENUE, LOFT 300 #8 MEADOW HEIGHTS PROFESSIONAL PARK DR. 1204 WASHINGTON AVE. SUITE 200 DOCUMENTS OR INSTRUMENTS **FA001** 

**CONSULTANTS:** 

KPFF CONSULTING ENGINEERS - ST. LOUIS

KJWW ENGINEERING CONSULTANTS - ST. I

STRUCTURAL ENGINEER:

SAINT LOUIS, MO 63131

MECHANICAL/ELECTRICAL:

1630 DES PERES RD, SUITE 100

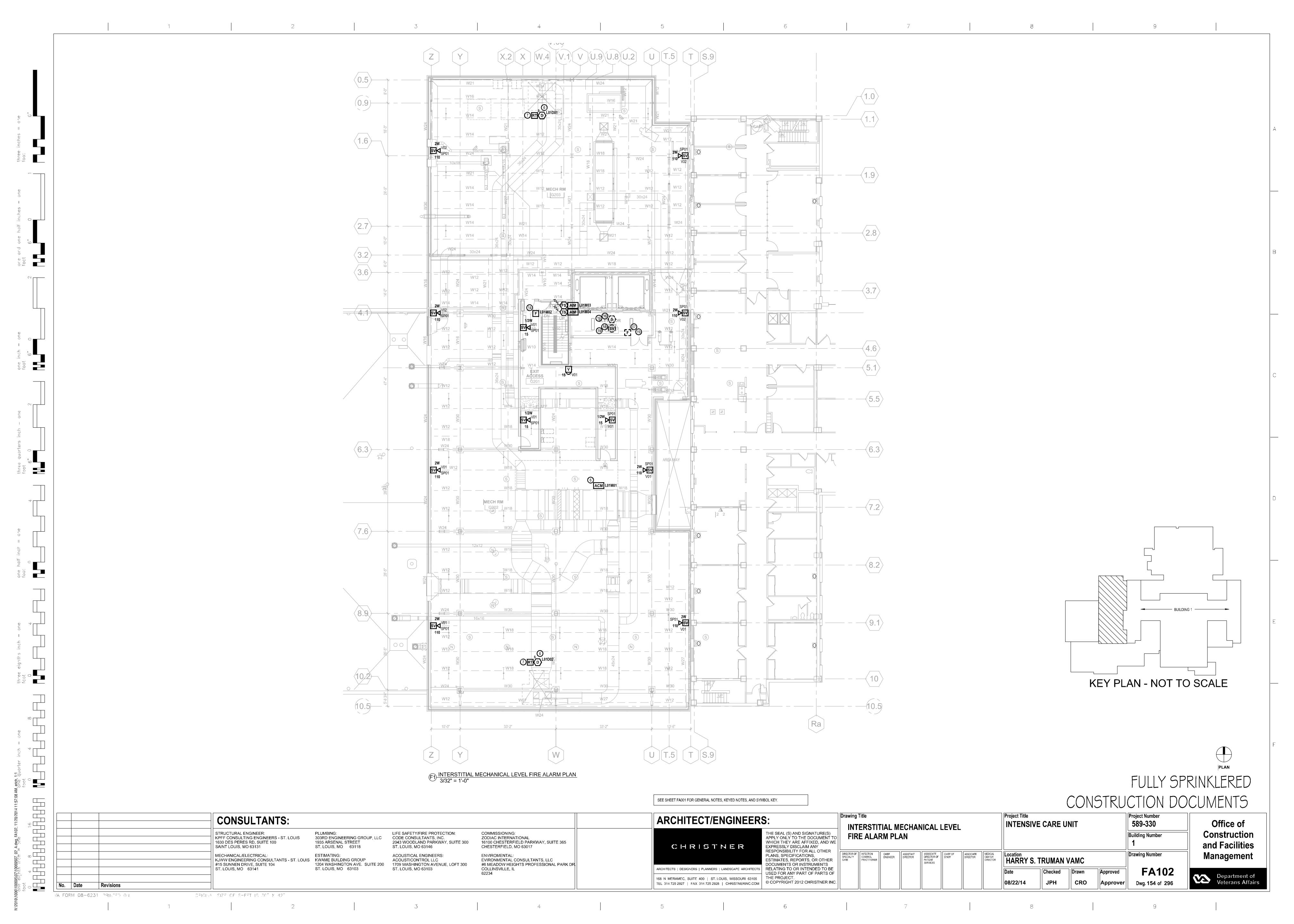
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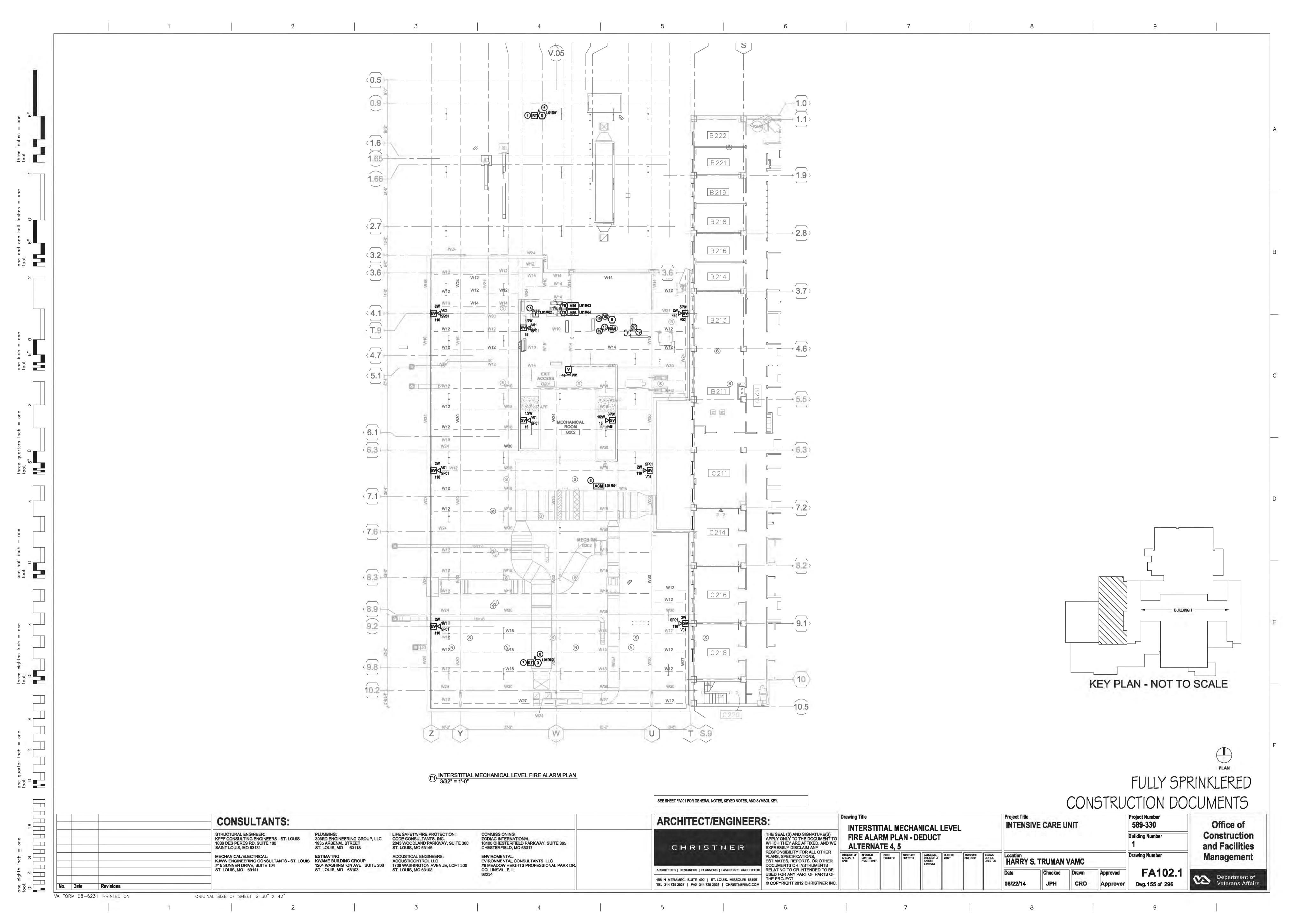
Department of Veterans Affairs

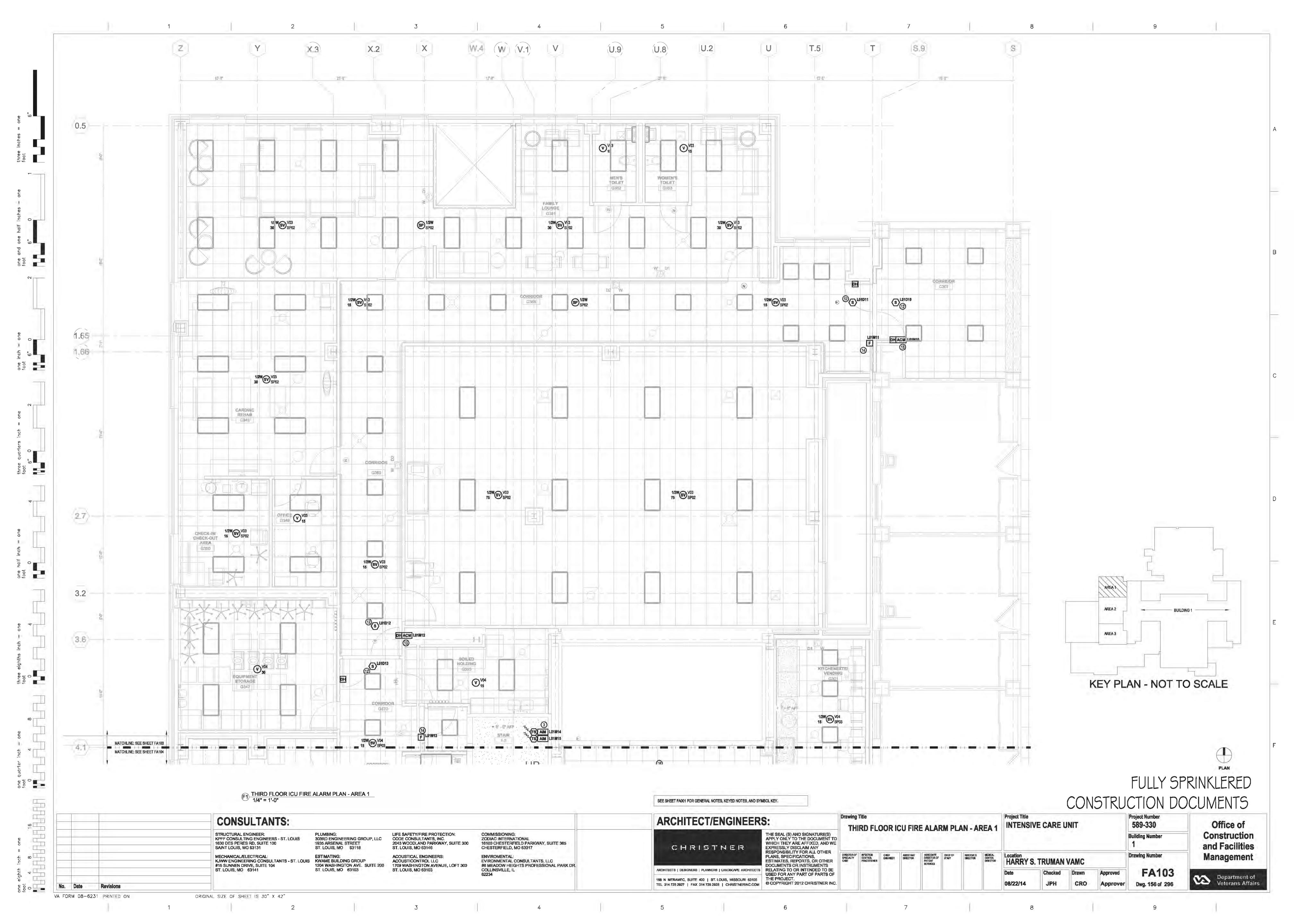
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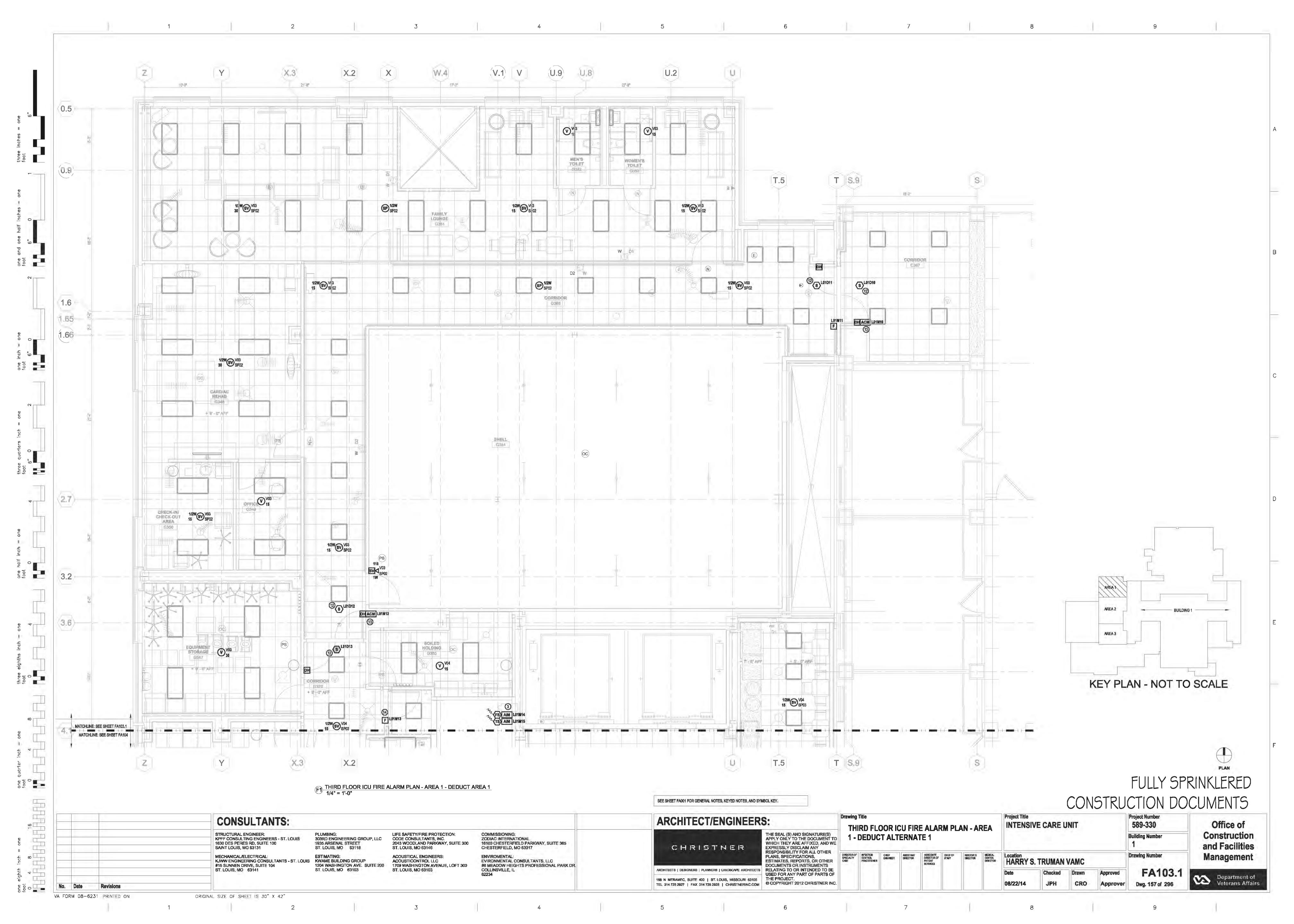
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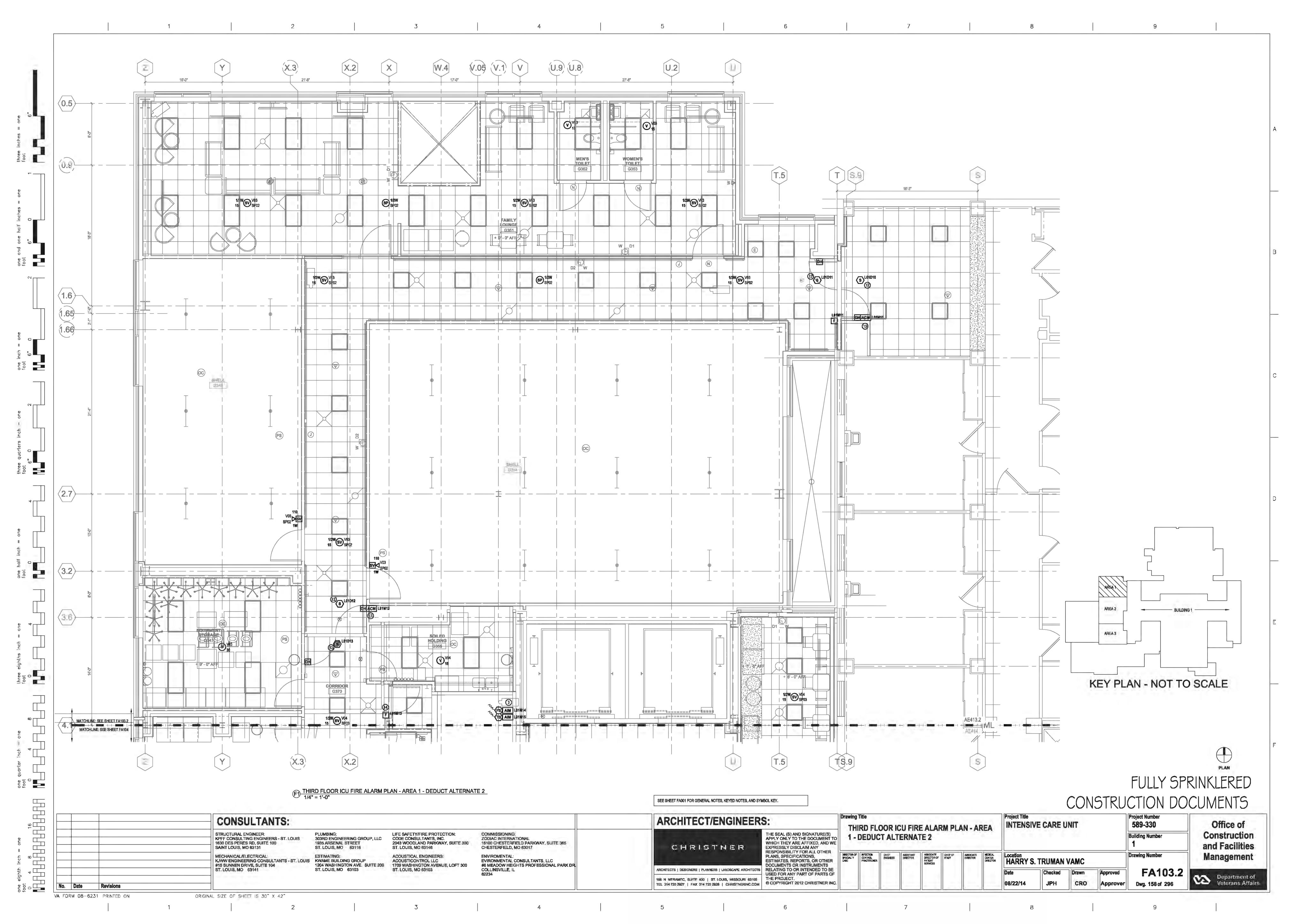
#15 SUNNEN DRIVE, SUITE 104 ARCHITECTS | DESIGNERS | PLANNERS | LANDSCAPE ARCHITECTS | RELATING TO OR INTENDED TO BE ST. LOUIS, MO 63103 COLLINSVILLE, IL ST. LOUIS, MO 63141 ST. LOUIS, MO 63103 USED FOR ANY PART OF PARTS OF THE PROJECT. 168 N MERAMEC, SUITE 400 | ST. LOUIS, MISSOURI 63105 TEL 314 725 2927 | FAX 314 725 2928 | CHRISTNERING.COM | © COPYRIGHT 2012 CHRISTNER INC. ORIGINAL SIZE OF SHEET IS 30" X 42" VA FORM 08-6231 PRINTED ON

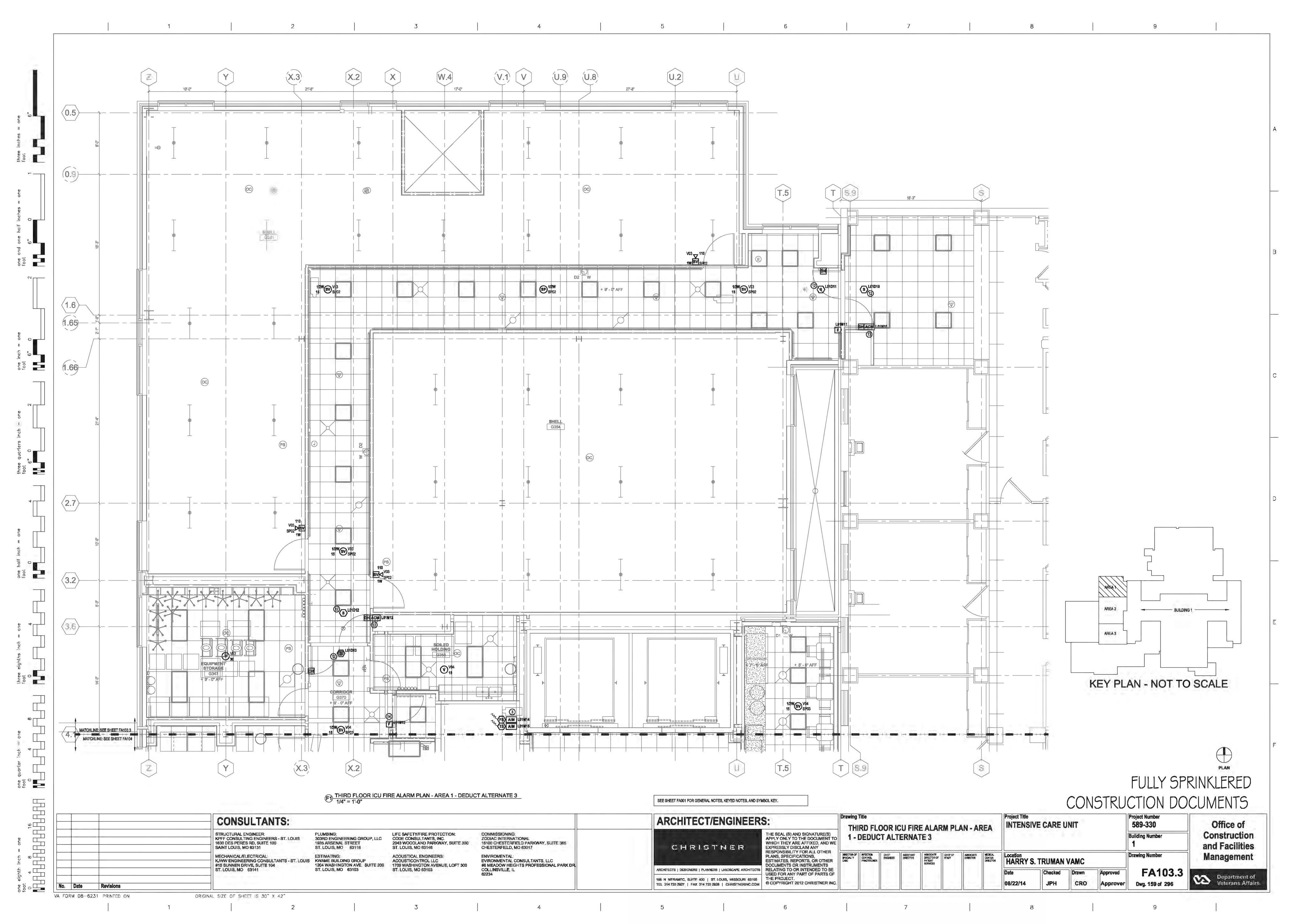


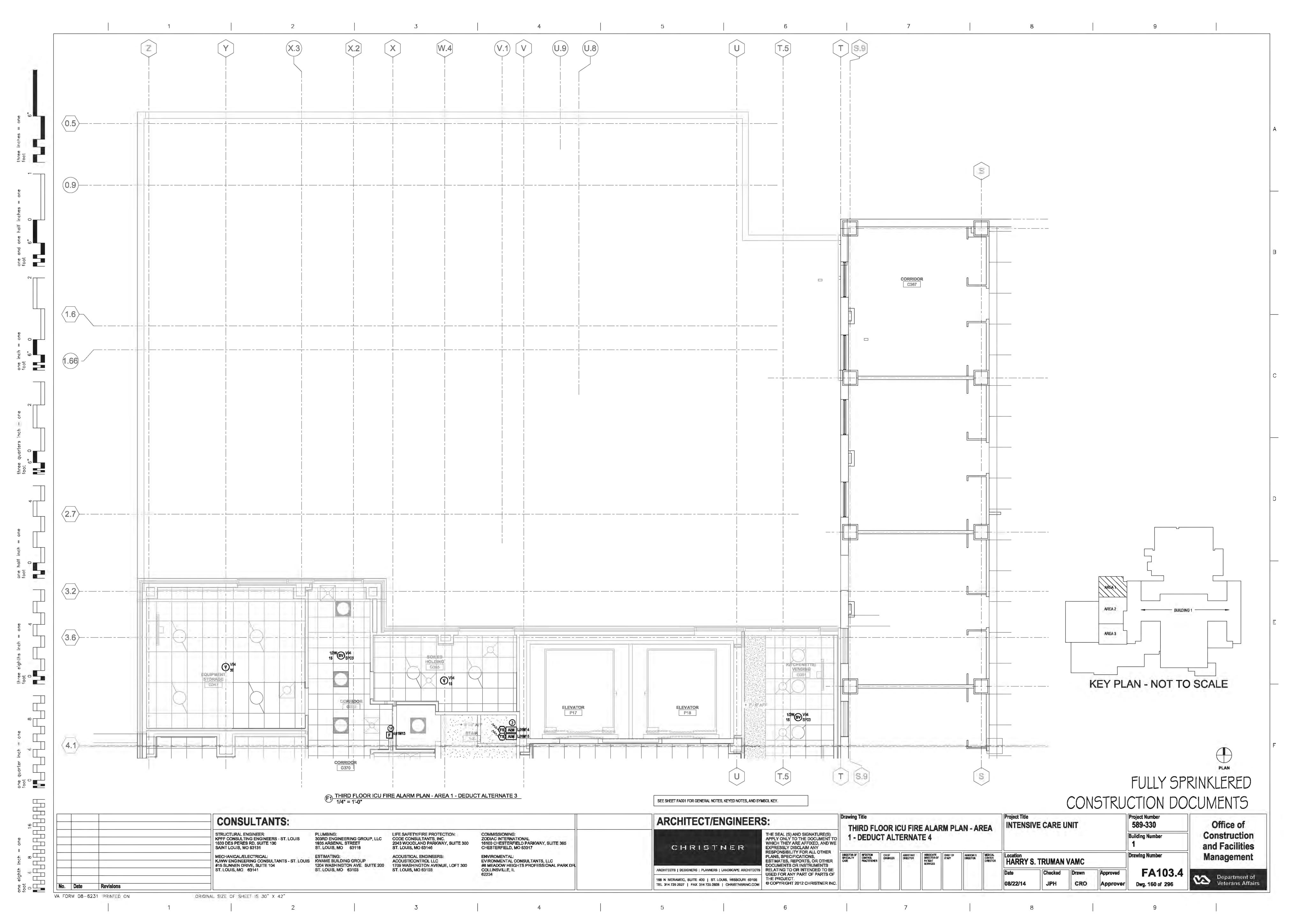


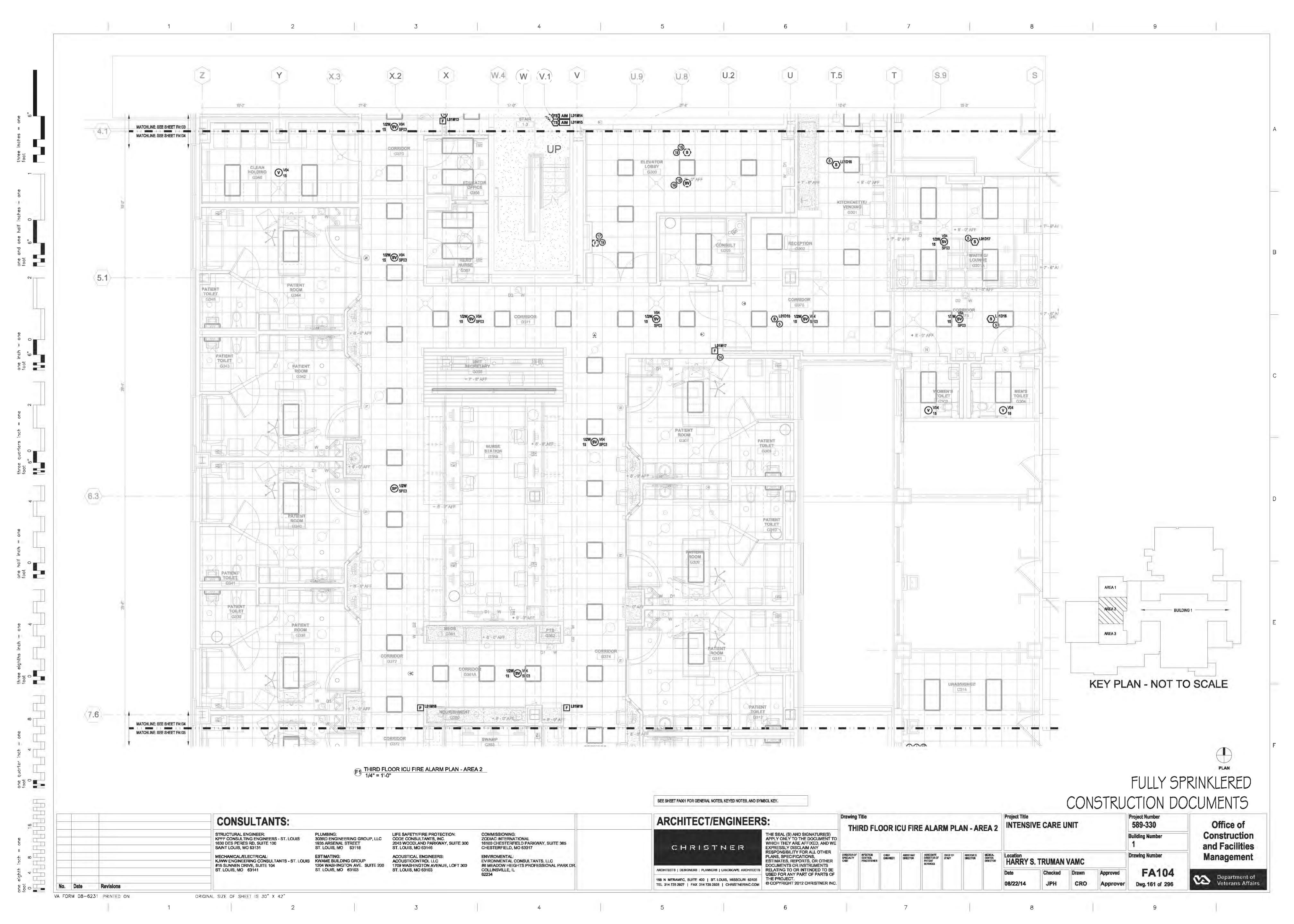


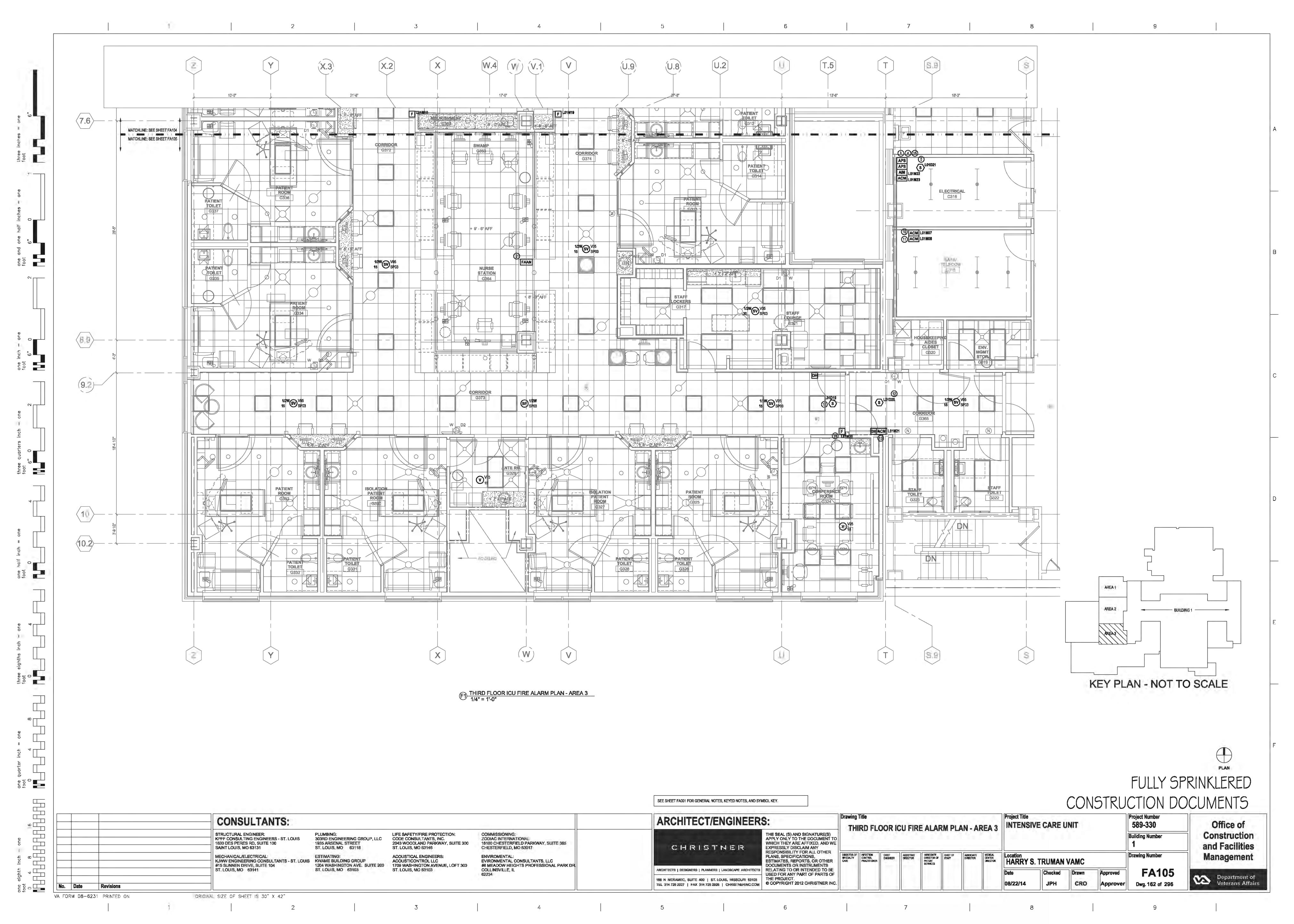


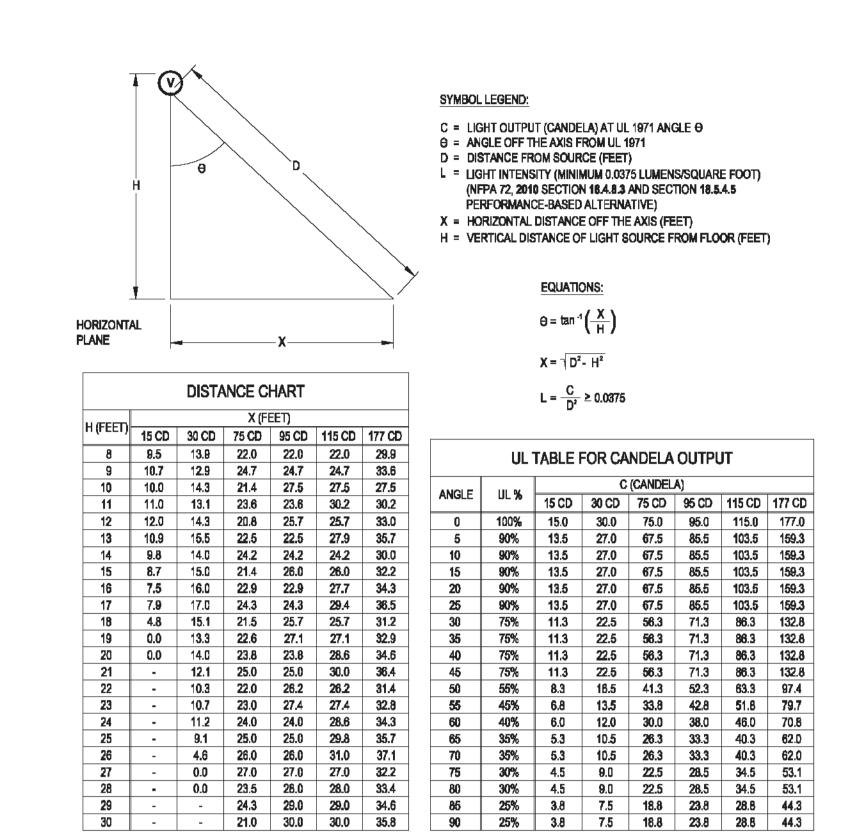












CEILING MOUNTED FIRE ALARM STROBE DISTANCE CALCULATIONS

1. FOR CEILING MOUNTED SMOKE DETECTORS AND OCCUPANT

JUNCTION BOX MOUNTING DETAIL

NOT TO SCALE

ORIGINAL SIZE OF SHEET IS 30" X 42"

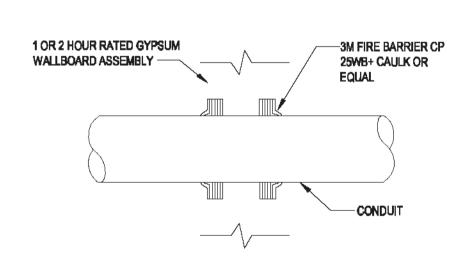
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NOTIFICATION APPLIANCES IN AREAS WITH SUSPENDED CEILINGS.

NOT TO SCALE

SYMBOL LEGEND:  $L = \frac{C}{D^2} \cos \theta \qquad \& \quad \cos \theta = \frac{X}{D} \qquad \longrightarrow \qquad L = \frac{C}{D^2} \left(\frac{X}{D}\right) = \frac{C}{D^3} \left(X\right)$   $L = \frac{C}{D^3} \left(X\right) \qquad \& \qquad X = \sqrt{D^2 - \alpha^2} \qquad \longrightarrow \qquad L = \frac{C}{D^3} \left(\sqrt{D^2 - \alpha^2}\right)$ C = LIGHT OUTPUT (CANDELA) O = ANGLE OFF THE AXIS D = DISTANCE FROM SOURCE (FEET) L = LIGHT INTENSITY = 0.0375 LUMENS/SQUARE FOOT X = HORIZONTAL DISTANCE FROM SOURCE (FEET) ITERATE TO SOLVE FOR D:  $L = \frac{C}{D^3} \left( \sqrt{D^2 - \alpha^2} \right)$ H = VERTICAL DISTANCE OF SOURCE FROM FLOOR (FEET)  $\alpha$  = VERTICAL DISTANCE OF SOURCE FROM 6'-8" ABÔVE FLOOR (FEET) THEN SOLVE FOR X:  $X = \sqrt{D^2 - \alpha^2}$ THESE CALCULATIONS ARE DERIVED FROM THE ILLUMINATING ENGINEERING SOCIETY (IES) LIGHTING HANDBOOK; AND FROM APPLICATIONS AS SUGGESTED BY NFPA 72 (2010 EDITION) APPENDIX SECTION A18.5.4.3. DISTANCE CHART

WALL MOUNTED STROBE DISTANCE CALCULATIONS



NOT TO SCALE

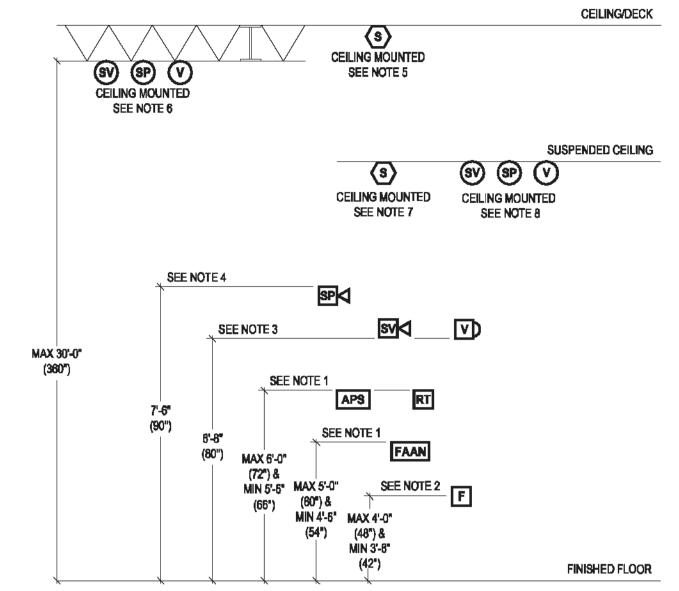
NOT TO SCALE

1. CONDUIT SHALL BE INSTALLED AT CENTER OF STUD CAVITY WIDTH AND SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.

SEE SHEET FA001 FOR GENERAL NOTES, KEYED NOTES, AND SYMBOL KEY

- 2. CAULK FILL MATERIAL SHALL COMPLETELY FILL ANNULAR SPACE BETWEEN CONDUIT AND WALL; AND SHALL HAVE A 1/4 INCH DIAMETER BEAD OF CAULK APPLIED TO PERIMETER OF CONDUIT AT ITS EGRESS OF THE WALL. FOR CONDUIT 1 INCH DIAMETER AND SMALLER, THE ANNULAR SPACE SHALL BE LESS THAN 1-1/2 INCHES.
- 3. MAXIMUM OF (1) CONDUIT PER FIRESTOP SYSTEM. 4. CONSULT CURRENT U.L. FIRE RESISTANCE DIRECTORY FOR DETAILS.

FIRE RATED GYPSUM WALLBOARD **CONDUIT PENETRATION U.L. W-L-1001** 

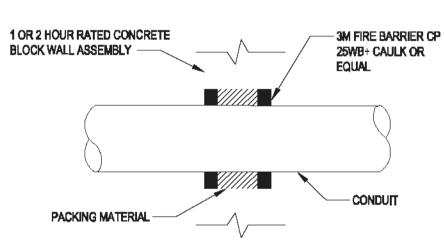


- 1. COORDINATE EXACT MOUNTING HEIGHT OF ANNUNCIATORS, POWER SUPPLIES, AND REMOTE TEST STATIONS WITH THE GENERAL
- CONTRACTOR, ELECTRICAL CONTRACTOR, SRE AND AHJ PRIOR TO INSTALLATION.

NOT TO SCALE

- 2. MEASURED TO THE OPERABLE PART OF THE PULL STATION. MEASURED TO THE BOTTOM OF THE LENS.
- MEASURED TO THE TOP OF THE BACKBOX. 5. WHERE INDICATED ON THE DRAWINGS - LOCATE CEILING MOUNTED SMOKE DETECTORS FLUSH WITH THE CEILING/DECK, AND AS INDICATED
- 6. WHERE INDICATED ON THE DRAWINGS LOCATE CEILING MOUNTED NOTIFICATION APPLIANCES ON BOTTOM OF BEAMS OR JOISTS; WITH CLEAR LINE OF SITE IN ALL DIRECTIONS; NO GREATER THAN THIRTY (30) FEET ABOVE THE FINISHED FLOOR; AND AS INDICATED IN NFPA 72.
- 7. WHERE INDICATED ON THE DRAWINGS LOCATE CEILING MOUNTED SMOKE DETECTORS FLUSH WITH THE SUSPENDED CEILING; AND AS
- 8. WHERE INDICATED ON THE DRAWINGS LOCATE CEILING MOUNTED NOTIFICATION APPLIANCES FLUSH WITH THE SUSPENDED CEILING; ALIGNED WITH LIGHTING, SPRINKLERS, AND OTHER ARCHITECTURAL FIXTURES; WITH CLEAR LINE OF SITE IN ALL DIRECTIONS; NO GREATER THAN THIRTY (30) FEET ABOVE THE FINISHED FLOOR; AND AS INDICATED IN NFPA 72.

TYPICAL MOUNTING HEIGHT DETAIL



- CONDUIT SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. 2. THE ANNULAR SPACE BETWEEN CONDUIT AND PERIPHERY OF OPENING SHALL BE LESS THAN
- MAXIMUM OF (1) CONDUIT PER FIRESTOP SYSTEM.

NOT TO SCALE

- 4. PACKING MATERIAL MINIMUM 4 INCH THICKNESS OF MINIMUM 8 PCF MINERAL WOOL BATT
- INSULATION SHALL BE FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL SHALL BE RECESSED FROM BOTH SURFACES OF WALL AS REQUIRED TO
- ACCOMMODATE THE REQUIRED THICKNESS OF CAULK MATERIAL. 6. CAULK MATERIAL - MINIMUM 1/2 INCH THICKNESS OF FILL MATERIAL SHALL BE APPLIED WITHIN
- THE ANNULUS, FLUSH WITH BOTH SURFACES OF THE WALL. 7. CONSULT CURRENT U.L. FIRE RESISTANCE DIRECTORY FOR DETAILS.

FIRE RATED CONCRETE BLOCK WALL

CONDUIT PENETRATION U.L. C-AJ-1045

# FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

16 Drawing Title Project Title Project Number **CONSULTANTS: ARCHITECT/ENGINEERS:** Office of 589-330 INTENSIVE CARE UNIT FIRE ALARM DETAILS STRUCTURAL ENGINEER: KPFF CONSULTING ENGINEERS - ST. LOUIS Construction LIFE SAFETY/FIRE PROTECTION: THE SEAL (S) AND SIGNATURE(S) COMMISSIONING: **Building Number** 303RD ENGINEERING GROUP, LLC CODE CONSULTANTS, INC. **ZODIAC INTERNATIONAL** APPLY ONLY TO THE DOCUMENT TO 16100 CHESTERFIELD PARKWAY, SUITE 365 2043 WOODLAND PARKWAY, SUITE 300 1630 DES PERES RD, SUITE 100 1935 ARSENAL STREET WHICH THEY ARE AFFIXED, AND WE and Facilities CHRISTNER SAINT LOUIS, MO 63131 EXPRESSLY DISCLAIM ANY ST. LOUIS, MO 63118 ST. LOUIS, MO 63146 CHESTERFIELD, MO 63017 RESPONSIBILITY FOR ALL OTHER **Drawing Number** CHIEF ENGINEER Management MECHANICAL/ELECTRICAL: ESTIMATING: **ACOUSTICAL ENGINEERS:** ENVIROMENTAL: PLANS, SPECIFICATIONS, HARRY S. TRUMAN VAMC EVIRONMENTAL CONSULTANTS, LLC KWAME BUILDING GROUP KJWW ENGINEERING CONSULTANTS - ST. LOUIS ESTIMATES, REPORTS, OR OTHER ACOUSTICONTROL LLC 1709 WASHINGTON AVENUE, LOFT 300 1204 WASHINGTON AVE. SUITE 200 #8 MEADOW HEIGHTS PROFESSIONAL PARK DR. DOCUMENTS OR INSTRUMENTS #15 SUNNEN DRIVE, SUITE 104 ARCHITECTS | DESIGNERS | PLANNERS | LANDSCAPE ARCHITECTS | RELATING TO OR INTENDED TO BE ST. LOUIS, MO 63141 ST. LOUIS, MO 63103 ST. LOUIS, MO 63103 COLLINSVILLE, IL **FA201** Approved USED FOR ANY PART OF PARTS OF Department of Veterans Affairs THE PROJECT. 168 N MERAMEC, SUITE 400 | ST. LOUIS, MISSOURI 63105 TEL 314 725 2927 | FAX 314 725 2928 | CHRISTNERING.COM @ COPYRIGHT 2012 CHRISTNER INC. CRO JPH Dwg. 163 of 296

FIRE ALARM MATRIX FIRE SPRINKLER SYSTEMS • • • • - WATERFLOW SWITCH
- CONTROL VALVE TAMPER SWITCH • • • • • • • MANUAL PULL STATIONS
- EXITS SMOKE DETECTION DEVICES
- ADJACENT TO APS - CORRIDORS - AIR HANDLING UNIT - SUPPLY FIRE DEPARTMENT MANUAL CONTROLS (LOCATED AT EXISTING FACP)
- VOICE ALARM OVERRIDE
- MANUAL MICROPHONE • • • LOSS OF PRIMARY POWER AT THE APS ABNORMAL CIRCUIT OR DEVICE • • •

		MAXIMUM DISTANCE TO LAST APPLIANCE										
SIGNAL CIRCUIT DESCRIPTION	APS / CIRCUIT LOCATION	ALARM CURRENT (AMPS)	12 AWG (FEET)	14 AWG (FEET)	16 AWG (FEET)	18 AWG (FEET)						
APS #1	ELECTRICAL 321											
V01	INTERSTITIAL MECHANICAL	1.140	1,000	629	395	248						
V02	INTERSTITIAL MECHANICAL	0.440	2,591	1,629	1,022	644						
V03	THIRD FLOOR ICU - AREA 1	1.253	910	572	359	226						
V04	THIRD FLOOR ICU - AREA 2	1.015	1,123	706	443	279						
APS #2	ELECTRICAL 321											
V05	THIRD FLOOR ICU - AREA 3	0.495	2,303	1,448	909	572						
V06	LOCATION	0.00										
V07	LOCATION	0.00										
V08	LOCATION	0.00										

## NOTES:

ORIGINAL SIZE OF SHEET IS 30" X 42"

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NOTIFICATION APPLIANCE CIRCUITS (NAC) DESIGNED FOR A MAXIMUM 2.0 AMPS, A MAXIMUM 4.4 VDC DROP, AND MINIMUM OPERATING VOLTAGE OF 16 VDC.
 FIELD VERIFY ALL VOLTAGE DROP AND POWER REQUIREMENTS.
 NAC CIRCUITS HAVE BEEN DESIGNED BASED UPON THE ABOVE CIRCUIT CURRENT AND VOLTAGE CRITERIA USING WHEELOCK / WALL / CEILING MOUNTED APPLIANCE CRITERIA. IF ALTERNATE NOTIFICATION APPLIANCES ARE INSTALLED, PROVIDE REVISED POWER AND VOLTAGE DROP CALCULATIONS FOR ALL CIRCUITS.

	CONTRO	DL-BY-EVENT PROGRAMMING ZONE LIST
ZONE NUMBER	ACTUATED DEVICES AND MODULES	ALPHANUMERIC LABEL OF ZONE
<b>Z</b> 01	FACP / FATP / FAAN / DACT	ALARM CONDITION AT FACP, FATP, FAAN, AND OFF-SITE MONITORING STATION
Z02	FACP / FATP / FAAN / DACT	SUPERVISORY CONDITION AT FACP, FATP, FAAN, AND OFF-SITE MONITORING STATION
Z03	FACP / FATP / FAAN / DACT	TROUBLE CONDITION AT FACP, FATP, FAAN, AND OFF-SITE MONITORING STATION
Z04		
Z05		
<b>Z</b> 06	L01M22	VISUAL NOTIFICATION APPLIANCE ACTIVATION
Z07		
Z08	FACP / FATP	SPEAKER NOTIFICATION APPLIANCE ACTIVATION
Z09		
<b>Z</b> 10		
Z11		
Z12		
Z13		
Z14		
Z15		
Z16		
Z17		
Z18	LO1MD1	SHUTDOWN AHLI'S (AFFECTED UNIT ONLY)
Z19		
Z20		
<b>Z21</b>		
Z22	FACP	MANUALLY ACTIVATES SPEAKER APPLIANCES PER LEVEL ON A SELECTIVE BASIS
Z23	<del></del>	
Z24		
Z25		
Z26	L01M08	MUTE BACKGROUND MUSIC / SOUND SYSTEM / PAGING SYSTEM
Z27		
Z28		
Z29	L01M07	RELEASE ALL LOCKED STAIRWELL AND EGRESS DOORS
Z30	L01M10, L01M12, L01M21	RELEASE AFFECTED HOLD OPEN DOORS
Z31	new sees say to sees say to see sees s	The State of the S

		CONTROL-BY-EVENT PR	OGRAMMING MATRIX
ADDRESS	TYPE I.D.	ACTUATED ZONES	ALPHANUMERIC LABEL OF DEVICE
L01D01			
L01D02	DUCT	Z01, Z06, Z08, Z18, Z26, Z29	SOUTH SUPPLY AIR DUCT INTERSTITIAL LEVEL
L01D03			
L01D <b>04</b>			
L01D05			
L01D06			
L01D <b>07</b>			
L01D06			
L01D09			
L01D10	SMOKE	Z01, Z06, Z08, Z26, Z29, Z30	CORRIDOR 387
L01D11	SMOKE	<b>Z01, Z06, Z08, Z28, Z29, Z3</b> 0	CORRIDOR 368
L01D12			
L01D13			
L01D14			
L01D15	SMOKE	Z01, Z06, Z08, Z26, Z29	CORRIDOR 375
L01D16	SMOKE	Z01, Z06, Z06, Z26, Z29	VENDING 301
L01D17	SMOKE	Z01, Z06, Z08, Z26, Z29	WAITING LOUNGE 300
L01D18	SMOKE	Z01, Z06, Z08, Z26, Z29	CORRIDOR 375
L01D19	SMOKE	Z01, Z06, Z08, Z28, Z29, Z30	CORRIDOR 373
L01D20	SMOKE	Z01, Z06, Z06, Z26, Z29, Z30	CORRIDOR 365
L01D21	SMOKE	Z01, Z06, Z06, Z26, Z29	ELECTRICAL 321
L01D22			

ADDDEGG	TVDE LD	ACTUATED TONES	ALBUMANUMEDIA LABEL OF DEMAGE						
ADDRESS	TYPE I.D.	ACTUATED ZONES	ALPHANUMERIC LABEL OF DEVICE						
L01M01	CONTROL		AHU SHUTDOWN - INTERSTITIAL LEVEL						
L01M02	PULL	Z01, Z06, Z08, Z26, Z29	CONTROL STAIRWAY - INTERSTITIAL LEVEL						
L01M03	MONITOR	201, 206, 208, 226, 229	WATERFLOW- CENTRAL STAIRWAY - INTERSTITIAL LEVEL						
L01M04	MONITOR	<b>Z</b> 02	CONTROL VALVE TAMPER SWITCH - CENTRAL STAIRWAY- INTERSTITIAL LEVEL						
L01M05									
L01M06									
L01M07	CONTROL		ACCESS CONTROL HEAD-END INTERFACE FOR LOCKED DOOR RELEASE						
L01M08	CONTROL		MUTE BACKGROUND MUSIC / SOUND SYSTEM / PAGING SYSTEM						
L01M09									
L01M10	CONTROL		CORRIDOR 367/386 DOOR HOLD OPEN RELEASE						
L01M11	PULL	Z01, Z06, Z06, Z26, Z29	CORRIDOR 368 EXIT						
L01M12									
L01M13	PULL	Z01, Z06, Z06, Z26, Z29	CORRIDOR 370 EXIT TO STAIR 1-3						
L01M14	MONITOR	Z01, Z06, Z06, Z26, Z29	WATERFLOW - CENTRAL STAIRWAY - 3RD FLOOR						
L01M15	MONITOR	<b>Z</b> 02	CONTROL VALVE TAMPER SWITCH - CENTRAL STAIRWAY - 3RD FLOOR						
L01M16									
L01M17	PULL	Z01, Z06, Z06, Z26, Z29	CORRIDOR 371 EXIT						
L01M18	PULL	Z01, Z06, Z06, Z26, Z29	CORRIDOR 372 AT NURSES STATION						
L01M19	PULL	Z01, Z06, Z06, Z26, Z29	CORRIDOR 374 AT NURSES STATION						
L01M20	PULL	Z01, Z06, Z08, Z26, Z29	CORRIDOR 373 EXIT						
L01M21	CONTROL		CORRIDOR 373/365 DOOR HOLD OPEN RELEASE						
L01M22	CONTROL		APS ACTIVATION						
L01M23	MONITOR	<b>Z</b> 03	APS TROUBLE MONITOR						
L01M24									

SEE SHEET FA001 FOR GENERAL NOTES, KEYED NOTES, AND SYMBOL KEY.

## FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

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	CONSULTANTS:				ARCHITECT/ENGINEE	RS:	Drawing Tit		MATRIX, I	RISFR		Project Title INTENSIVE	CARE U	NIT		Project Number 589-330	Office of
	STRUCTURAL ENGINEER:  KPFF CONSULTING ENGINEERS - ST. LOUIS  1630 DES PERES RD, SUITE 100  SAINT LOUIS, MO 63131	PLUMBING: 303RD ENGINEERING GROUP, LLC 1935 ARSENAL STREET ST. LOUIS, MO 63118	LIFE SAFETY/FIRE PROTECTION: CODE CONSULTANTS, INC. 2043 WOODLAND PARKWAY, SUITE 300 ST. LOUIS, MO 63146	COMMISSIONING: ZODIAC INTERNATIONAL 16100 CHESTERFIELD PARKWAY, SUITE 365 CHESTERFIELD, MO 63017	CHRISTNER	THE SEAL (S) AND SIGNATURE(S) APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND WI EXPRESSLY DISCLAIM ANY	AND		AMMING	,						Building Number	Construction and Facilities
	MECHANICAL/ELECTRICAL: KJWW ENGINEERING CONSULTANTS - ST. LOUIS #15 SUNNEN DRIVE, SUITE 104	ESTIMATING: S KWAME BUILDING GROUP 1204 WASHINGTON AVE. SUITE 200	ACOUSTICAL ENGINEERS: ACOUSTICONTROL LLC 1709 WASHINGTON AVENUE, LOFT 300	ENVIROMENTAL: EVIRONMENTAL CONSULTANTS, LLC #6 MEADOW HEIGHTS PROFESSIONAL PARK DR.		RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS		TECTION CHIEF INTRÔL ENGIN ACTITIONER	ASSISTANT DIRECTOR	ABSOCIATE DIRECTOR OF STAFF STRENT SERVICES	ASSOCIATE DIRECTOR DIRECTOR	Location HARRY S. 1	TRUMAN '	/AMC		Drawing Number	Management
No. Date Revisions	ST. LOUIS, MO 63141	ST. LOUIS, MO 63103	ST. LOUIS, MO 63103	COLLINSVILLE, IL 62234	ARCHITECTS   DESIGNERS   PLANNERS   LANDSCAPE ARCHITE  168 N MERAMEC, SUITE 400   ST. LOUIS, MISSOURI 631  TEL 314 725 2927   FAX 314 725 2928   CHRISTNERINC.C							Date 08/22/14	Checked JPH	Drawn CRO	Approver	FA202 Dwg. 164 of 296	Department of Veterans Affair

